

Library of the Museum
OF
COMPARATIVE ZOÖLOGY,
AT HARVARD COLLEGE, CAMBRIDGE, MASS.

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*In Exchange from the
Essex Institute
No. 4198.*

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BULLETIN
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CONTENTS.

An Abstract of Remarks upon the Plants of Scripture, by Geo. D. Phippen,	1
Regular Meeting, Monday, January 3,	9
Fifth Musical Entertainment, Wednesday, January 5,	9
Regular Meeting, Monday, January 17,	10
Subscription paper for the Isle of Shoals, 12.—Letter from Dudley A. Tyng, 13.	
Letters Announced, 10, 21, 40, 45, 61, 63, 66, 68, 87, 106, 118, 158, 165, 170.	
Additions to Library, 10, 21, 40, 46, 61, 63, 67, 68, 88, 107, 118, 159, 166, 170.	
Additions to the Museum, 11, 40, 47, 61, 90, 109, 119, 171	
Deficiencies in the Libraries,	14, 128
Hybrid Grapes, by Charles H. Higbee,	17
Regular Meeting, Monday, February 7,	21
Resolutions on the death of Charles Davis, 22.—Notes on the History of Horticulture in Salem, 22.	
Quarterly Meeting, Wednesday, February 9,	27
Regular Meeting, Monday, February 21,	26
The Indians of California, by E. E. Chever, 28.—Notice of an old Revolutionary musket, 32.	
First Houses in Salem, by W. P. Upham,	33, 49
Regular Meeting, Monday, March 7,	40
Notice of a portrait of Wm. Orme, 43.—Packard's account of a trip to Florida, 44.	
Regular Meeting, Monday, March 21,	45
Upham's account of original laying out of Salem, 47.—Atwood's remarks on some of our marketable fishes, 48.—Putnam's communication in relation to Capt. Hall's third expedition to the Arctic regions, 48.	
Regular Meeting, Monday, April 4,	61
An act to amend the charter of the Essex Institute, 62.	
Regular Meeting, Thursday, April 21,	63
Vocabulary of Familiar Words used by the Indians of California, by Edward E. Chever,	65
Regular Meeting, Monday, May 4,	66
Annual Meeting, Wednesday, May 11,	68
Reports of Recording Secretary, 69.—Treasurer, 72.—Superintendent of Museum, 73.—Librarian, 74.—Curator of Manuscripts, 75.—Amendments to By-Laws, 76.—Officers elected, 77.	

Social Meeting, Tuesday, May 24,	78
Opening remarks by the President, 78.—Remarks of A. C. Goodell, 79; of George D. Phippen, 79; of C. M. Tracy, 80.—Programme of Music, 80.	
Notice of Acts and Resolves of the Province of Massachusetts Bay,	81
Notice of a Genealogical Memoir of the Stickney Family,	84
Notice of Packard's Guide to the Study of Insects,	85
Field Meeting at Bradford, Thursday, June 16,	86
Notice of the excursion, 86.—F. W. Putnam's remarks on zoological specimens collected, 91.—A. Hyatt's remarks on Eozoon in Essex County, 93.—A. S. Packard's account of the Currant Saw Fly, 93.— Specification of items from the old Records of the Town, 96.—G. D. Phippen's notice of the Flora, 104.—Account of Bradford Academy, 105.	
Dark Lane, with allusions to other localities of Wild Plants in Salem, by George D. Phippen,	97
Field Meeting at Swampscott, Wednesday, July 21,	106
Notice of the excursion, 106.—F. W. Putnam, notice of Fishes, 110.— E. S. Morse on some of the common forms of life on the sea shore, 111.—A. Hyatt's remarks on the Geology, 111.—C. F. Winslow, on the dynamics of geology, 112.—W. P. Upham on the ancient topog- raphy, 116.	
Giles Corey and Goodwife Corey, a ballad of 1692,	113
Adjourned Meeting, Friday, July 22,	117
Field Meeting at West Peabody, Thursday, August 4,	117
Notice of the excursion, 117.—G. D. Phippen's Notice of the Flora, 120.—J. H. Emerton, on some habits of the Spiders, 120.—E. S. Morse, on the Grasshoppers, 120.—W. P. Upham, on the Historical associations of the place (farm of Giles Corey), 121.—W. F. Poole's remarks on the same subject, 123.—W. P. Upham's reply, 127.	
Quarterly Meeting, Wednesday, August 10,	127
Notes and Queries on Salem Harbor,	129
Excursion to Plymouth, Thursday, September 1, 1870,	136
Notice of the excursion, 136, 143.—Albert Mason's address of welcome, 137.—Reply of the President of the Institute, 139.—G. B. Loring's address, 140.—Thomas Russell's remarks, 143.	
Old Channels of Trade, by Robert S. Rantoul,	145
Regular Meeting, Monday, September 5,	154
Notice of the death of A. Huntington, President of Institute, 1851-65, 154.—Resolutions to the memory of Mr. Huntington adopted, 155.	
Field Meeting at Methuen, Thursday, September 15,	156
Notice of the excursion, 156.—Remarks of F. W. Putnam, 161.—N. M. Williams, 161.—E. S. Morse, 161.—T. G. Grassie, 162.—C. M. Tracy, on <i>Sarracenia</i> and Fungi, 162.	
Regular Meeting, Monday, October 3,	164
Regular Meeting, Monday, November 7,	165
Quarterly Meeting, Wednesday, November 9,	165
Regular Meeting, Monday, December 5,	165
J. Kimball, on ancient topography of Salem, 169.	
Regular Meeting, Monday, December 19,	170
F. W. Putnam on <i>Hemiramphus</i> , and on abnormal growth of incisor teeth of woodchuck, 171.—W. Maynard's lecture on tanning, 172.	

BULLETIN

OF THE

ESSEX INSTITUTE.

VOL. 2. SALEM, MASS., JANUARY, 1870. No. 1.
One Dollar a Year in Advance. 10 Cents a Single Copy.

AN ABSTRACT OF REMARKS UPON THE PLANTS OF SCRIPTURE.

BY GEORGE D. PHIPPEN.

THE lectures, of which this was a condensation, were prepared for an entirely different purpose than presentation before a scientific association. There is much greater obscurity in our version regarding these plants, than would be the case were a new one now made which should include a better knowledge of the productions of Palestine and the neighboring countries, than was then possessed. The copiousness of allusions to the vegetable kingdom, throughout the Hebrew Scriptures, impresses with an interest, amounting to astonishment, all those whose attention has been called to the subject.

A large portion of the rich and glowing passages, from both the greater and lesser prophets, that have chimed their measured cadences into our ears from earliest childhood, are of this class, examples of which are here cited. So marked is this quality of Hebrew poetry, as seen in the Bible, that it was declared, by a learned man of the last century, to be botanical poetry, and who states that

upwards of two hundred and fifty botanical terms can be found therein.

The glory of Lebanon, the excellency of Sharon, and the waving forests of Carmel have lent their aid to illustrate sacred themes.

The Lord is described as riding upon the wind, but his more gentle going is heard in the tops of the mulberry trees. The righteous shall cast his roots as Lebanon—they shall flourish like the palm tree—they shall sit under their own vine and fig tree. The thorn shall give place to the fir tree, and the myrtle grow instead of the briar—and all the trees of the fields shall clap their hands.

The New Testament is not so rich in metaphor. The lily of the field, the grain of mustard seed, the wild and good olive tree, the seed sown in weakness but raised in power, are familiar examples.

The remarkable range of temperature of the land of Palestine, from the snow-clad summits of Lebanon and Hermon, to the coast plains and to the deep and almost tropical valley of the Jordan, is productive of a more varied vegetation than can be found anywhere within the same territory upon the surface of the earth. On her heights are to be found natives of the colder zones, while in the Jordan valley grow plants not to be found nearer than India.

The mountains abound in oaks, cedars and pines; while the palm, the fig and citron find a congenial home in the plains or lower declivities. Our familiar garden bulbs flourish along the water courses, and numerous species of Legumes and Labiates render the sandy regions less desolate.

Its anciently terraced and artificially watered hills were capable of a luxurious cultivation, and though now com-

paratively desolate, once supported a numerous population.

The region of ancient Jericho with its palms — the enchanting valley of Sechem — the gardens of Engedi — fig and olive groves and vineyards in great numbers, altogether impress us with its former wonderful fertility.

Immense grain fields and gardens of cucumbers and melons, each with its hut or lodge for the abode of a watchman, who remained during the ripening season to guard the fruit, were numerous and in some parts are still to be seen. Isaiah compares Zion "as desolate as a lodge in a garden of cucumbers."

The plants represented might be divided into plants ornamental; plants used for perfume or incense; fruits, grains, woods, &c.

Of ornamental plants, the Rose, strange as it may appear, is not found in the Scriptures. The two solitary cases, in Isaiah and the Song of Solomon, where our version has the word Rose are thought to indicate a bulbous plant — an *Amaryllis* or *Narcissus*. The Rose of Sharon is therefore supposed to be the *Narcissus Tazzeta*, a plant that freely abounds in the wilds of Sharon. The Rose of the Apochrapha is supposed to refer to a shrub, extremely common around the Sea of Galilee and the water courses of that country generally, that is the *Nerium Oleander*, well known and cultivated among us.

Our native Apocynæ are of the same order with it, and all of them, though so beautiful, are more or less poisonous; indeed most milky-sapped plants should be regarded with suspicion. The sap of the Oleander is most virulently poisonous, and has even caused death. The powdered wood is sometimes used as a rat exterminator.

The LILY is the ornamental plant of Scripture; its flowers adorned, in relief, the brim of the Moulton

sea; and furnished Solomon in his wonderful song with one of its choicest images. The Lily of the Old Testament differs from that of the New. The Hebrew word "Shusan" (hence our name Susan) is thought to mean the *Nelumbium Speciosum*, a species of the Lotus, sacred and venerated by the Egyptian, Hindoo and Chinese. It is a water plant and once common in the rivers of Egypt and Syria. It is the most beautiful of all the Nymphaea, examples of which we have in our native water lilies and the famous Victoria Regia. The Lily of the New Testament, the Greek "Krina," is now understood to be the *Lilium Chalcedonicum*, a scarlet martagon, and not the Crown Imperial, as formerly supposed, which latter is a Persian plant, and never common in Palestine. The imported bulbs of this Lily [once compared to the scarlet robes of Solomon], can occasionally be purchased at the seed stores in Boston.

"Camphire with Spikenard."

"My beloved, is unto me a cluster of
Camphire in the vineyard's of Engedi."

The plant thus rendered *Camphire*, is believed to be the Henna plant of Egypt and Palestine, the *Lawsonia inermis*, a most beautiful and deliciously fragrant shrub, whose flowers have been used both in ancient and modern times as an article of luxury and adornment. It belongs to the Loosestrife family, types of which we have in our cultivated and native Lythrums.

The BALM OF GILEAD and that rendered MYRRH, are the exuded sap from two species of *Balsamodendron*, i. e. the *B. Gileadense* and *B. Myrrha*, belonging to the order Amyridacæ, the plants of which abound in balsamic juices and yield frankincense, olibanum, balsam copaiba and other fragrant resins and gums. This order belongs exclusively to tropical India, Africa and America. It has some alliance to the Orange tribe, but differing

greatly in its dry nut-like fruits. The Balm of Gilead is believed to be one of the earliest articles of commerce known, even as far back as the time of the patriarch Jacob, as the Midianite merchantmen, to whom Joseph was sold, were then on their way to Gilead to complete their camel loads with a choice supply of that costly balsam for the Egyptian market. It often sold for twice its weight in silver. It was cultivated only in the King's garden in Judea, the revenue from which belonged exclusively to the Crown.

Strabo speaks of it. Titus carried some of it to Rome. Pompey exhibited one of the trees in a triumphal entry. When Alexander visited Judea, one teaspoonful per day and seven gallons per year was the entire product.

FRANKINCENSE, so often mentioned in Scripture, is a gum from a tree of this same order with the last. It has been used from the remotest times by the Hebrews and Egyptians in their sacrifices. It exudes from the straight trunk of the *Boswellia-serrata*, a lofty tree, native of the mountains of Central India. Frankincense is still used as incense in Catholic churches, and somewhat as a medicine.

The LIGNALOE, *Aquilaria Agallochum*, or Eagle-wood, is found only in Asia. It grows sometimes to the height of one hundred and twenty feet. The heart-wood is loaded with aromatic properties, and is one of the most grateful of perfumes. It has been held more precious than gold. "All thy garments shall smell of myrrh, aloes and cassia."

This was one of the drugs, one hundred pounds of which Nicodemus brought after the Crucifixion, in which, with the linen clothes, was wrapped the body of our Lord; it was therefore a very costly preparation. We have no plant of more approximate affinity than our

hedge buckthorn. The aloe of the apothecaries is an entirely different article, and obtained from a plant of the lily tribe.

SPIKENARD, of the Valerian family has a most rare and agreeable perfume. Our garden Heliotrope and the Centranthus are of this order. Several of them yield a fragrance which intoxicates the cat tribe, and that from one of them is said to be sufficiently powerful to throw even man into convulsions.

The *Nardostachys Jatamansi*, of the mountains of upper India, seems conclusively proved by Sir William Jones and Dr. Royle, to be the plant which furnished the "Alabastar box of Spikenard very precious," with which Mary anointed the feet of Jesus, and which Judas declared might have been sold for three hundred pieces of silver; which price, among other unguents, is given by Pliny, who remarking on the extravagance of such preparations, says, "We have known the very soles of the feet sprinkled therewith." He also intimates the form of the alabastar ointment boxes.

"Spikenard and Saffron, Calamus and Cinnamon.—S. of S.

SAFFRON is the yellow Stigma of the *Crocus sativus*, or fall Crocus, belonging to the well known Iris family, very common in cultivation among us. Saffron was and still is used as a perfume, spice, confection, dye and medicine. Its collection required great patience, four thousand flowers yielding but one ounce, and the entire product of an acre for the season averaged but about ten or twelve pounds. It was formerly extensively cultivated at Welden in Essex, England, which hence has borne the name of Saffron-Welden.

A totally different plant, the *Carthamus tinctoria*, once familiar under the name of Saffron in our gardens, has been successfully used to adulterate the true Saffron.

Calamus aromaticus "the Sweet cane from a far country," is allied to our sweet vernal grass.

Cassia and *Cinnamon*, well known spices, were in the time of Ezekiel common articles of trade with the merchants of Tyre. They belong to a family of which our *Sassafras* and *Laurus benzoin* are examples. *Camphor* of commerce is from a tree of the same tribe.

The *Hyssop* and *Mustard* of Scriptures, around which many inquiries cluster, are not so satisfactorily identified by modern investigation as would seem reasonable to expect. The former is declared by the best authorities to be the *Capparis Egyptica*, or Caper plant, and not the officinal herb, Hyssop; the latter, the *Salvadora Persica*, a tree-like plant, sufficiently large for birds generally to lodge in its branches. Some still adhere to the common Mustard as that alluded to on two occasions by our Saviour. The uses of Mustard were well understood and described by Pliny, who was nearly cotemporary.

The FRUITS were identified and described. Among them the PALM tribe, a family acknowledged by botanists to be the princes of the vegetable kingdom, and to which, in Scripture, the righteous are most fitly compared. "They shall flourish like the Palm tree; they shall bring forth fruit in old age." The whole Palm tribe are of immense importance to the countries in which they grow. The *Date Palm* yields, year by year, an even crop of perhaps three or four hundred pounds, and that for a century together, scarcely ever materially failing.

The APPLE of Scripture is, without doubt, the Citron, *Citrus medica*. "A word fitly spoken is like apples of gold in pictures of silver," might be rendered, "like golden citrons in silver baskets," in allusion to a custom of the Jews of presenting that fruit in this manner at their sacred feasts.

The FIG, SYCAMORE-FIG and MULBERRY, of the *Morads*, a family peculiar for the manner in which their fruits are formed, being an aggregation of calices consolidated into round, succulent heads. The manner of the flowering of the fig, inside of the fruit, but having all the requisite organs of true flowers, was satisfactorily explained.

The OLIVE and VINE are among the most signal of the bountiful gifts of Providence, and would in their history and economy exhaust volumes, yielding as they do such indispensable products, as fruits, wine, oil, molasses, &c.

The ALMOND and POMEGRANATE, with the numerous texts in which they are mentioned, received a share of attention and were found full of interest and instruction.

The CAROB-TREE, *Ceratonia siliqua*, with its sweet pods or husks, furnished food for the poor; but the copious crops of the tree were generally fed out to mules, asses and swine. No doubt this fruit is referred to in the parable of the prodigal son, upon which he was obliged to feed, "the husks that the swine did eat."

CUCUMBERS and MELONS are invested with great historical interest on account of the extent of their ancient cultivation and the great place they filled in the diet of the ancient Hebrews and Egyptians.

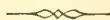
The LINTEL of Jacob and Esau; the PAPYRUS, from which paper was made, and which is alluded to in the epistles of John; the *Zysyphus*, the plant from which the "Crown of Thorns" was probably made, have each an interest peculiarly their own.

The TIMBER TREES of the country, and such as were used in the building of Solomon's temple, received a passing notice.

JONAH'S GOURD, ELIJAH'S JUNIPER, the mythical AP-

PLES of SODOM, and the ROSE of JERICHO, received severally their share of explanation.

The foregoing plants were illustrated by colored representations, which served to fix their identification in the mind, and added greatly to the interest of the subject.



REGULAR MEETING, MONDAY, JANUARY 3, 1870.

The President in the chair. Records of preceding meeting read.

Mr. GEORGE D. PHIPPEN occupied the hour with an account of the Plants mentioned in Scripture, identifying them with those known at the present day, and showing the affinities to our familiar native and cultivated species. [Printed on page 1.]

Hon J. G. WATERS made some remarks expressive of his great interest in what had been said by Mr. Phippen, and moved that the thanks of the Institute be presented to him for his interesting and instructive communication. Unanimously adopted.

Charles A. Farnum of Salem, and George E. Emery of Lynn, were elected members, and Mrs. Eleanor Forrester Condit of Newark, N. J., a corresponding member.

FIFTH MUSICAL ENTERTAINMENT, WEDNESDAY, JAN. 5, 1870.

1. DUETT—PIANO AND VIOLIN.

Selections from "Semiramide." *De Beriot & Facounier.*

2. TRIO—"Ave Verum." *Kreutzer.*

3. SONGS—Baritone. a. "Romanze," . . . *Franz.*
b. "A Red Red Rose," . . . *Schuman.*

4. PART SONGS. a. "The Curfew," . . . *H. Smart.*
b. "Waiting for the May," . . . *H. Hiles.*

5. SONG—Soprano, "Bid me to live," . . . *Hatton.*

6. QUARTETTE—"A te o cara," "from Puritani," . . *Bellini.*

7. SYMPHONY NO. 7—PIANO AND VIOLIN, . . . *Beethoven.*

Allegretto—Presto.

8. DUETT—"Da che tornaste," *Donizetti.*

9. SONG—Soprano, "Across there at the window," . *Mohring.*

10. MALE QUARTETTE—a. "Spring Night," . . . *Fischer.*
b. "Slumber Soft," . . . *Mohring.*

11. DUETT—"What makes the Spring," . . . *Aft.*

12. SESTETTE—"Chi mi frena," from Lucia," . . . *Donizetti.*

REGULAR MEETING, MONDAY, JANUARY 17, 1870.

The President in the chair. Records of preceding meeting read.

The Secretary reported the following correspondence.

J. F. A. Adams, Pittsfield, Jan. 12; Jacob Batchelder, Lynn, Jan. 16; John A. Battis, Salem, Jan. 13; T. Apoleon Cheney, Watkins, N. Y., Jan. 6; George E. Emery, Lynn, Jan. 15; G. L. Goodale, Brunswick, Me., Jan. 12; A. C. Hamlin, Bangor, Me., Dec. 21, 24; P. A. Hanaford, Reading, Jan. 12; Leeds Philosophical and Literary Society, Aug. 21, 1869; Mannheimer Verein für Naturkunde, August, 1869; Museum, Bergen, Norway, Nov. 18, 1869; Russell and Erwin Manufacturing Co., New York, Dec. 20, 1869; South African Museum, Cape Town, Dec.; Société de Physique and d'Histoire Naturelle de Genève, Sept. 8, 1869; W. Hudson Stephens, Lowville, N. Y., Jan. 11; C. M. Tracy, Lynn, Jan. 12; Charles Vose, Boston, Jan. 5; J. K. Wiggins, Boston, Nov. 30, 1869; George D. Wildes, Riverdale, N. Y., Jan. 13; John Wilson & Son, Cambridge, Jan. 7.

The Librarian announced the following additions.

By Donation.

- BEMIS, LUKE, of Boston. Pennant's Arctic Zoology, 4 vols. 4to, London, 1792.
- BUTLER, BENJ. F., M. C. Report of the Commissioner of Agriculture for 1868, 1 vol. 8vo. Monthly Report of the Department of Agriculture for Nov. and Dec., 1869, 8vo pamphl.
- COLUMBIAN ASSOCIATES. Portland Transcript for 1868, 1869. New York Mercury for 1869.
- GARFIELD, J. A., M. C. Report of the Librarian of Congress for 1869, 8vo pamphl.
- GREEN, SAMUEL A., of Boston. Miscellaneous pamphlets, 11.
- GROVESSOR, DANIEL P. Miscellaneous pamphlets, 29.
- KIMBALL, JAMES. Jewett's Lectures and Writings on Temperance, 1 vol. 12mo. Boston, 1849. The Trojan Sketch Book, 1 vol. 12mo, Troy, 1846.
- LANGWORTHY, I. P., of Boston. Reports of British and Foreign Bible Society, 13 pamphlets, 8vo London, 1814, etc. Reports of American Tract Society, 10 pamphlets, 8vo, Boston, 1856, etc. Bible Society Records, 61 numbers. Miscellaneous pamphlets, 59.
- LEE, JOHN C. Commercial Bulletin for December, 1869.
- LINCOLN, SOLOMON, of Hingham. Transactions of the Hingham Agricultural and Horticultural Society for the year 1869.
- PALFRAY, CHARLES W. Miscellaneous pamphlets, 30.
- RICHARDSON, E. S. L., of Oswego, Ill. The Chicago Tribune, 7 numbers.
- STONE, BENJ. W. Joseph H. Ramsey against the Erie Railway Company and others, 8vo pamphl., New York, 1869.
- VERMILL, A. E., of New Haven, Conn. Synopsis of the Polyps and Corals of the North Pacific Exploring Expedition, 8vo pamphl., 1869.
- WATERS, J. LINTON, of Chicago, Ill. Parks in the West Division of the City of Chicago. Second Annual Report of Chicago Relief and Aid Society. Peregrine Pickle and Polinto's Christmas Papers, 3 pamphlets, 8vo, Chicago, 1869.

By Exchange.

ACADEMIA DELLA SCIENZE DELL' ISTITUTO DI BOLOGNA. Universalità dei mezzi di previdenza, difesa, e salvezza per le Calamità degli Incendi. Opera Premiata in Concorso dalla Accademia della Scienze dell' Istituto di Bologna. Scritta da Francesco del Giudice. Royal 8vo, Bologna, 1848.

BOSTON SOCIETY OF NATURAL HISTORY. Proceedings, vol. xiii, sig. 10, 11.

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY. Forty-ninth Report of the Council at the Close of the Session, 1868-9.

MASSACHUSETTS CHARITABLE MECHANIC ASSOCIATION. Eleventh Exhibition at Faneuil and Quincy Halls, Boston, September and October, 1869.

NATURWISSENSCHAFTLICHEN GESELLSCHAFT ZU CHEMNITZ. Erster Bericht der naturwissenschaftlichen Gesellschaft zu Chemnitz, 1859-1868, 2 pamphlets, 8vo, Chemnitz, 1865, 1868.

NEW YORK HISTORICAL SOCIETY. Historic Progress and American Democracy; an address by J. L. Motley, 8vo pamph., New York, 1869.

NEW YORK LYCEUM OF NATURAL HISTORY. Annals for December, 1869.

PUBLISHERS. American Journal of Numismatics. American Literary Gazette. American Publisher and Bookseller. Book Buyer. Canadian Naturalist. Christian World. Cosmos. Eclectic. Essex Banner. Gardener's Monthly. Gloucester Telegraph. Hardwick's Science Gossip. Haverhill Gazette. Journal de Conchyliologie. Land and Water. Lawrence American. Lynn Reporter. Medical and Surgical Reporter. Nation. Peabody Press.

SOCIÉTÉ DE PHYSIQUE ET D'HISTOIRE NATURELLE DE GENÈVE. Mémoires de la Société de Physique et d'Histoire Naturelle de Genève. Tomes, xix, xx, 1868-69, 4to.

VEREIN FÜR NATURKUNDE ZU MANNHEIM. Funfunddreissigster Jahresbericht des Mannheimer Vereins für Naturkunde. Erstattet in der General-Versammlung vom 20 February, 1869.

The Superintendent announced the Donations to the Museums of the Institute and Academy.

Prof. F. H. BRADLEY. Fossils of the Clintons, from Indiana.

EDWARD E. CHEVER. Fossil wood, from near Colorado (the place is known as the Petrified Trees).

WM. S. COOK, Salem. Chinese Copper Coin of the new Hong Kong currency; value one mill.

Dr. EASTMAN, Washington, D. C. Larva of a Wood Boring Beetle, from a decayed Chestnut stump near that place.

J. P. LEAVITT, Beverly. A Water Jar, from Palermo.

B. W. PATCH, Hamilton. Stone Axe and Arrowhead, from Hamilton.

HENRY W. PEABODY, Salem. Musk Deer, from Java.

L. H. P., Portsmouth, N. H. Two dried plants, from San Francisco, Cal.

J. L. RUSSELL, Salem. Hottentots Figs (Fruit of the *Mesembryanthemum acimifolium*).

The PRESIDENT stated that Mr. Charles Davis of Beverly, an associate member, died very suddenly at his residence, on Friday last, and that several officers and members of the Institute had attended the funeral this afternoon.

The deceased having always taken a deep interest in the objects of the Institute, and having been for several years an active member, and one of its officers, it is highly proper that suitable notice should be taken of this sad and melancholy event.

On motion of Mr. JAMES KIMBALL, a committee of three, consisting of Messrs. W. P. Upham, James Kimball and R. R. Endicott, was ap-

pointed to prepare appropriate resolutions, and to recommend such farther action as may be required.

Mr. F. W. PUTNAM exhibited a fish, *Hemirhamphus longirostris*, taken off Nantucket. This specimen was captured by Mr. Augustus Welcome of Nantucket, and given to Francis Gardner, Esq. of Boston, by whom it was presented to the Museum. It possesses great interest, being the first specimen of this species, heretofore known, beyond the limits of the Indian Ocean.

Mr. W. P. UPHAM exhibited a map of the "Common Lands of Salem in 1720," which was found in the Old Lynde House, corner of Liberty and Essex streets, Salem (taken down in 1836), and presented to the Institute by Mr. Robert Peele. He spoke at some length on this subject. Several others also made remarks.

Mr. W. P. UPHAM also exhibited an original subscription paper, accompanied by a letter from Dudley Atkins Tyng, soliciting aid to educate and improve the condition of the inhabitants of the Isles of Shoals, after their sufferings caused by the Revolution. An added value is given to these papers, by the very interesting article on the Isles of Shoals, that has recently appeared in the Atlantic Monthly.

Subscription Paper for the Isle of Shoals.

BOSTON, Sept. 17, 1801.

The people on the Isles of Shoals, having by the humane exertions of Dudley Atkins Tyng, Esq. and others, been recovered from a state of the most deplorable ignorance, vice and wretchedness, and the Society for propagating the Gospel having employed Mr. Josiah Stevens as a missionary and schoolmaster upon these islands, for whom and his successors in office it is absolutely necessary to erect a small dwelling house which will cost about one thousand dollars:

The subscribers, desirous of promoting the cause of virtue, religion and humanity, and commiserating the unhappy people on the Isles of Shoals, especially their children, do agree to pay the sums annexed to their names for the purpose of building a dwelling house for the use of the minister or missionary residing on the Isles of Shoals forever.

Mr. Tyng's letter accompanies this subscription paper. The money to be paid to the treasurer of the Society for propagating the Gospel to be appropriated to the object.

[SIGNED BY]

William Phillips, Jr., Samuel Salisbury, Stephen Higginson, Stephen Higginson Jr., K. Boott, S. K. Jones, N. Lee, William Pratt, Francis Amory, Gard. Greene, Adam Babcock, Jona. Davis, N. Frazier, Benjamin Bussey, Jr., Samuel G. Perkins, James Perkins, Joseph Coolidge, S. Salisbury, Jr., I. P. Davis, Samuel Parkman, Thomas C. Amory, John Amory, T. H. Perkins, S. P. Gardner, P. C. Brooks.

[Whole amount subscribed, \$706.]

Mr. Tyng will collect the remaining sum at Newburyport.

Letter from Dudley A. Tyng.

NEWBURYPORT, Sept. 1, 1801.

MY DEAR SIR:—You are not ignorant of the interest I have taken in the reformation and civilizing of the people inhabiting the Isles of Shoals. It is impossible by words to convey any idea of the extreme poverty, ignorance and vice these people had sunk into. The islands had been deserted by all who had means to leave them. No one cared for the instruction or comfort of those that remained. The children were growing up without one virtuous or religious sentiment. Drunkenness, profanity and idleness overwhelmed the whole community. The liberality of well disposed persons furnished means for erecting a commodious stone house, to serve them as a school house and as a place of worship. It also serves, by means of a tower on its top, as a very useful beacon for vessels arriving on the coast.

The Society for propagating the Gospel have employed the Rev. Josiah Stevens since April last, as a missionary, to teach the children and to lead in the exercises of the Sabbath. His piety, patience, mildness and industry, have already wrought wonders. Children who did not know their letters, now read intelligibly in their Bibles, and those who never held a pen before, now write a legible joining-hand. Cleanliness and decorum have kept pace with their improvement in their school exercises. They are delighted with their new state, and their ambition is kindled. Their language has, in a good measure, lost its profaneness, and there is a consoling prospect of their recovery to decent and virtuous habits, should attention be still continued to them.

You need not to be told how great satisfaction I derive from this state of things, nor how much anxiety I feel for its continuance and improvement.

Mr. Stevens is precisely the man to be desired for this situation. He perceives it himself, and this has reconciled him to the idea of continuing in it, notwithstanding his extreme disgust from the dirt and vice of the people amongst whom he is placed, on condition only that a small house can be provided for his accommodation. He has hitherto resided on another island than that on which the meeting house is, and where almost all the people live. The passage across is always inconvenient, and at some seasons hazardous. There is a public lot near the meeting house, on which such a house could be built. Less than \$1000 would complete it. Charity never found a more inviting or a more promising object. Say, then, if such a sum cannot be raised from the wealth, the piety and the benevolence of those with whom you associate. You may assure them that in a very short time, they shall receive accounts of the improved condition of these wretched people, which shall make their hearts thrill with pleasure.

Your affectionate servant,

DUDLEY A. TYNG.

John O'Donnell and Charles A. Shepherd, both of Salem, were elected resident members.

DEFICIENCIES IN THE THE LIBRARY.

It is intended to publish from time to time, lists of deficiencies in the library; hoping that those friends of the Institute who may notice the same, will be induced to aid in completing the sets. Any number or volume, not designated (within brackets) under any title, will be acceptable.

DEFICIENCIES IN ALMANACS.

- THE CLERGYMAN'S ALMANAC, Boston [1809-1822].
 UNITARIAN REGISTER, Boston [1846-1858].
 UNITARIAN CONGREGATIONAL YEAR BOOK [1856-1858, 1867].
 ALMANAC AND BAPTIST REGISTER, Philadelphia [1841-1852].
 AMERICAN BAPTIST ALMANAC, Philadelphia [1860].
 THOMAS' (R. B.) FARMER'S ALMANAC, Boston [1793-1863].
 METHODIST ALMANAC, New York [1858, 1860, 1861].
 GEORGE'S (DANIEL) CAMBRIDGE ALMANAC or ESSEX CALENDAR, Salem and Newburyport [1776, 1778-1781, 1783, 1784].
 RUSSELL'S (E.) AMERICAN ALMANAC, Danvers and Boston [1780-1782].
 CARLTON'S (OSGOOD) ALMANAC, Boston [1790-1797].
 BICKERSTAFF'S BOSTON ALMANAC [1768, 1769, 1773-1775, 1777-1779, 1784-1788, 1791, 1792, 1795].
 WEBSTER'S CALENDAR, or THE ALBANY ALMANAC [1829, 1832, 1847-1866, 1868].
 NEW ENGLAND FARMER'S ALMANAC, by Dudley Leavitt, Exeter and Concord, N. H. [1819-1821, 1823, 1826-1827, 1830-1867].
 UNIVERSALIST'S REGISTER, COMPANION and ALMANAC, Utica, N. Y., Boston [1839-1842, 1849, 1852, 1855, 1857-1866].
 WHIG ALMANAC, New York [1844-1853, 1855].
 TRIBUNE ALMANAC, New York [1857, 1859-1866].
 LOW'S (NATHANIEL) ALMANAC, Boston [1770, 1772-1821, 1824, 1825, 1827].
 CHURCHMAN'S ALMANAC, New York [1830, 1834, 1837].
 THE CHURCH ALMANAC, New York [1841, 1843, 1846, 1848-1862, 1864, 1866, 1867].
 THE PROTESTANT EPISCOPAL ALMANAC, New York [1860, 1862, 1863, 1864].
 SWORD'S POCKET ALMANAC, New York [1831, 1839].
 THOMAS' (ISAAH) ALMANAC, Worcester [1788-1791, 1793, 1796-1808, 1811-1816, 1818-1822].
 STOFFORD (THOMAS) ALMANAC, Haverhill, Exeter, Boston [1817-1824, 1826, 1829, 1831-1838, 1841, 1842, 1844, 1846].

DEFICIENCIES IN DIRECTORIES.

- BANGOR, by S. S. Smith [1843, 1848, 1855, 1859]; by Symonds, Chase & Co. [1869].
 LEWISTON AND AUBURN DIRECTORY, by Stanwood [1860, 1864].
 PORTLAND DIRECTORY, by S. Colman [1831]; A. Shirley [1834]; REFERENCE BOOK AND DIRECTORY, by Becket [1846, 1847-8, 1850-1, 1852-3, 1856-7, 1858-9, 1863-4, 1866-7]; ALMANAC AND REGISTER, by C. A. Dockham [1860].
 SACO AND BIDDEFORD BUSINESS DIRECTORY [1819, 1856-7].
 CONCORD, N. H., DIRECTORY, by Hoag and Atwood [1830]; D. Watson [1856];
 DOVER, N. H., DIRECTORY, by Stevens [1833]; by J. S. Hayes [1859-60].
 MANCHESTER, N. H., ALMANAC AND GENERAL BUSINESS DIRECTORY [1850];
 DIRECTORY [1854, 1858, 1860, 1864, 1866, 1869].
 NASHUA, N. H., DIRECTORY, by Greenough [1864-5].
 PORTSMOUTH, N. H., DIRECTORY, by Penhallow [1821]; by Brewster [1851]; by Greenough [1864].

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BOSTON, MASS., DIRECTORY, by John West [1796]; by E. Cotton [1805, 1807, 1810, 1813, 1816, 1818]; by Frost and Stimpson [1822, 1826, 1827]; by Hunt and Stimpson [1828]; by Charles Stimpson, jr. [1829, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846]; by George Adams [1816-7, 1847-8, 1848-9, 1849-50, 1850-1, 1851-2, 1852-3, 1853-4, 1854-5, 1856, 1857]; by Adams, Sampson & Co. [1838, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868]; by Damrell and Moore [1857]; by Dean Dudley [1863-4]. OF ENVIRONS, by G. Adams [1848, 1849].

BRISTOL COUNTY, MASS., ALMANAC, by G. Adams [1852].

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CHARLESTOWN, MASS., DIRECTORY, by A. Quimby [1831]; by Fletcher [1848]; by Adams, Sampson & Co. [1860, 1862, 1864, 1866].

CHELSEA, MASS., DIRECTORY, by John Dent [1852, 1858, 1860].

ESSEX COUNTY, MASS., DIRECTORY, by Briggs & Co. [1866, 1869-70]; by C. A. and J. F. Wood [1870].

FALL RIVER, MASS., DIRECTORY, by George Adams [1853, 1855, 1857]; by Adams, Sampson & Co. [1859, 1864, 1869].

FITCHBURG, MASS., ALMANAC AND DIRECTORY, by Shepley and Wallace [1857].

GLOUCESTER AND ROCKPORT, MASS., DIRECTORY [1869].

HAVERHILL AND BRADFORD, MASS., DIRECTORY, by A. K. Hill [1860-61].

LAWRENCE, MASS., DIRECTORY, by W. Filmer [1848, 1851, 1853-4]; by G. Adams [1857]; by Adams, Sampson & Co. [1859, 1864]; by Sampson, Davenport & Co. [1866, 1868-9].

LOWELL, MASS., DIRECTORY, by B. Floyd [1832, 1836]; by G. Adams [1851, 1853]; by Adams, Sampson & Co. [1858, 1861]; by S. A. McPhetres [1864-5]; Sampson, Davenport & Co. [1866].

LYNN, MASS., DIRECTORY, by C. F. Lummus [1832]; by B. F. Roberts [1841]; by A. Lewis [1851]; by George Adams [1854, 1856, 1858]; by T. Herbert [1858]; by Adams, Sampson & Co. [1860, 1863, 1865, 1867].

NEW BEDFORD, MASS., DIRECTORY, by H. H. Crapo [1836, 1849, 1852]; by Dudley and Greenough [1857-8].

NEWBURYPORT, MASS., DIRECTORY, by Wooster Smith [1849, 1850]; by John E. Tilton [1851]; by George Adams [1852]; by Dockham and Brown [1853]; by C. N. Haskell [1858, 1860]; by Sampson, Davenport & Co. [1866].

NEWTON, MASS., DIRECTORY, by C. C. Drew [1868].

NORTHAMPTON, MASS., BUSINESS DIRECTORY, by Trumbull and Greer [1850-1].

PLYMOUTH COUNTY, MASS., DIRECTORY, by S. B. Pratt & Co. [1867].

PLYMOUTH, MASS., DIRECTORY [1851].

ROXBURY, MASS., DIRECTORY, by G. Adams [1848, 1854, 1856]; by Sampson, Davenport & Co. [1860, 1862].

SALEM, MASS., by H. Whipple [1837, 1842, 1846]; by G. Adams [1850, 1851, 1853, 1855, 1857, 1859, 1861, 1864, 1866, 1869].

SPRINGFIELD, MASS., DIRECTORY, by Valentine W. Skiff [1848]; by J. M. Newcomb [1858-9]; by S. Bowles & Co [1860-1, 1862-3, 1864-5].

TAUNTON, MASS., DIRECTORY, by G. Adams [1857]; by Adams, Sampson & Co. [1859, 1861, 1864, 1869].

WORCESTER, MASS., ALMANAC AND DIRECTORY, by H. J. Howland [1814, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869].

PUBLICATIONS

OF THE

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SALEM, MASS., 1870.

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THE AMERICAN NATURALIST. Monthly. Subscription

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BULLETIN

OF THE

ESSEX INSTITUTE.

VOL. 2. SALEM, MASS., FEBRUARY. 1870. No. 2.
One Dollar a Year in Advance. 10 Cents a Single Copy.

HYBRID GRAPES.

BY CHARLES H. HIGBEE.

THERE are three species of the grape indigenous to New England, viz.:— *Vitis Labrusca* (Northern Fox Grape); *Vitis aestivalis* (Summer grape); and *Vitis cordifolia* (Winter Grape); as classified by Gray. Probably they have not changed much, if any, in their peculiar characteristics for centuries, or since that unknown distant time when species were first so constituted. Although these species have innumerable varieties, that have slight differences of fruit, foliage or habit, yet the great points of semblance are always preserved, and any one familiar with these points, can easily tell to which species any specimen belongs. By the laws of nature they are maintained, and any change from her standard she looks upon with aversion. The whole life and energy of a plant is devoted to reproducing its kind, and it gives to its offspring the predisposition for its *own* qualities.

Until lately the wild kinds have been somewhat cultivated, and almost every garden, twenty years since, con-

tained one or more. The kind usually grown was the *Labrusca*, and is familiarly known by every one. It has a peculiar flavor, that is pleasant in the early stages of its ripening; but at maturity, is strong and disagreeable to most persons. This strong flavor is called by the fruit growers "foxy," and by others "grapey." The *Labrusca* bears the most palatable fruit of the three named species.

At the present time, we rarely find the native kinds in cultivation, but they can be found along our country road-sides, pastures and swamps. The varieties of the *V. vinifera* (European Grape), have been frequently tried in various places in this country, have not flourished and likewise have been discarded. But a race of good grapes has appeared, one by one, beginning with the *Isabella*, which was first circulated in 1818.

With all the plants and animals that man has domesticated, he has developed those qualities and parts most necessary to his wants and desires, and he can do this by *selection*, and giving to the subject all the conditions that make it flourish. When the wild grapes were domesticated, a change began, and having induced a vine to take one step forward in its fruit, according to the theory of Darwin, by sowing the seed, selecting the most improved seedling and continuing the process, at last, we would have a perfect grape, excellent in every particular. This process is very slow. The experiments of Mr. George Haskell, of Ipswich, are very interesting on this point, and from them we learn how very slow is the process of improving by selection. He has raised thousands of seedlings of the wild grape in an open field, where they could not have any influence from other kinds, and raised several generations without any perceptible improvement.

It is very reasonable to suppose that the fine grapes of the Old World, and the Muscats, Black Hamburgs of our graperies, have attained to their present standard by this method, and it must have taken ages. No doubt from the earliest time they have constantly progressed. A quicker way of improving our native kinds, than by "successive selection," and one that I think has been the means of producing most of the various sorts now grown, is, by hybridizing, and in this way at once adding the accumulated excellence of the foreign kinds to our own.

To Edward S. Rogers of Salem, belongs the credit of first artificially hybridizing the grape. The idea first suggested itself to him in 1848, but was not acted upon until the spring of 1851. He crossed several varieties of pears, and hybridized the *V. Labrusca* with *V. Vinifera*.*

The vine taken was that of the kind called Mammoth Globe (a variety of the *V. Labrusca*), which he bought of a person from Lowell, in 1846. It stood at the end of his garden, bordering on Federal street, and may be seen now climbing over an old pear tree. The pollen was taken from some Black Hamburg and Sweetwater vines that were growing in the same garden. These were obtained of Samuel G. Perkins of Brookline, in 1834, and were grown for several years in the open air, and had borne several fine crops. The mildew began to trouble them, and in 1844 Mr. Rogers built the grape-house over them for their protection.

On account of the smallness of the grape flowers and the peculiarity of the corolla in opening at the base and remaining united at the top, forming a cap, which often

* I hereby make a distinction between a *cross* and a *hybrid*. The first is the offspring of two varieties of the *same* species, while the latter is from the union of two separate species.

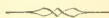
fertilizes as it expands, the grape was supposed beyond the reach of any interference in regard to its reproduction. These did not prove to be obstacles to Mr. Rogers. His account of his work is found in the *Horticulturist*, Vol. 8, Nos. 2 and 3, pp. 86 and 119. I will not repeat it here.

At first he was laughed at for the attempt, and our most learned horticulturists and botanists declared it to be an absurdity. But by the time the young hybrids began to fruit, he had several believers. In 1856, the vines that had grown in the original place, fruited; the rest the following year. This year he recrossed the *hybrids* with the *V. Vinifera*, bringing vines bearing fruit, nearly identical with the foreign kinds. The fruit of No. 4 of the first lot crossed with the Muscat, has the peculiar flavor of the Muscat.

It seems very remarkable that so large a number of fine grapes have appeared within the last fifteen years, and particularly within the last twenty. And as shown by the experiments of Mr. Haskell, and by the laws of reproduction, as far as they are known, it seems that the cultivated kinds are not simply improved seedlings, but are natural *hybrids*. Then, too, we do not find the gradually ascending scale of excellence that might be expected, if they came by progression. Between the wild *Labrusca* and the *Isabella*, *Catawba*, &c., there is a very wide difference. The seedlings of these kinds all tend back towards the original, and are much inferior to their parents, who have been elated by a favorable alliance. Again, the hybrids of Mr. Rogers' raising, resemble the "improved seedlings." No. 15 is frequently compared with the *Catawba*. Now all the attempts to cross the "improved seedlings" has resulted in producing grapes, so near the foreign kinds, as to be nearly or entirely worthless for

open air culture in our climate, and closely resembling them in every particular. This was the same with Mr. Rogers' second crosses, as he calls them.

The introduction and dissemination of the European grapes has brought together the two species, and the result is, that every year we hear of a new grape springing up in some old garden. There has always been an uncertainty as to the origin of the common varieties, and I can find nothing in their history that conflicts with the views herein given.



REGULAR MEETING, MONDAY, FEBRUARY 7, 1870.

The President in the chair. Records of preceding meeting read.

The Secretary announced the following correspondence.

Accademia delle Scienze, Bologna, May 15, 1869; C. M. Barton, Worcester, Jan. 19, 21; W. T. Brigham, Boston, Jan. 20, 24; A. C. Hamlin, Bangor, Me., Feb. 1, 2; Ferdinand D. Hsley, Newark, N. J., Jan. 31; Linnean Society, London, Sept. 25, 1869; N. H. Morrison, Baltimore, Md., Jan. 19; E. Steiger, New York, Jan. 10.

The Librarian reported the following additions to the Library.

By Donation.

ANDOVER THEOLOGICAL SEMINARY. Catalogue of the Officers and Students for 1869-70. 8vo pamph.

BUTLER, BENJ. F. M. C. Speech of Hon. H. L. Dawes in U. S. H. R., on Economy of Public Expenditures. Speeches of Hon. B. F. Butler in the U. S. H. R., on Public Expenditures of Grant's Administration.

CUTTS, MARY P. S. Life and Times of Hon. William Jarvis, of Weathersfield, Vt., 1 vol. 8vo, New York, 1869.

HARVARD UNIVERSITY. Medical Department. Eighty-seventh Medical Course, 8vo pamph., Boston, 1870.

LEE, JOHN C. Commercial Bulletin for January, 1870.

SUMNER, CHARLES, U. S. Sen. Speech of Hon. Charles Sumner in U. S. Sen., Jan. 12, 1870, 8vo pamph.

TRUAIR & SMITH, of Syracuse. Syracuse and Onondaga Directories for 1868, 1870, 2 vols. 8vo.

WATERS, J. LINTON, of Chicago. The Weekly Mississippi Valley Review and St. Louis Journal of Commerce, Jan., 1870, 4to pamph. Fifteenth Ann. Rep. of Board of Education, of Chicago, 8vo pamph., 1869. Illinois Central Directory for 1869, 1 vol. 8vo.

WOOD, C. A. & J. F. Directory of Essex County for 1870, 1 vol. 8vo. Boston, 1870.

WOODWARD, R., of Worcester. Worcester Directory for 1866, 1867, 1868. 3 vols. 8vo.

By Exchange.

AMERICAN ANTIQUARIAN SOCIETY. Proceedings at the Annual Meeting. Oct. 21 1869, 8vo pamph.

AMERICAN PHILOSOPHICAL SOCIETY. Philadelphia. Proceedings, Vol. xi. No. 82. 8vo pamph.

ARCHIV FÜR ANTHROPOLOGIE. Zeitschrift für Naturgeschichte und Urgeschichte des Menschen, 4to pamph., Braunschweig, 1869.

BIBLIOTHEQUE UNIVERSELLE ET REVUE SUISSE. Archives des Sciences Physiques et Naturelles, Nov. 15, 1869, 8vo pamph., Genève.

BOSTON PUBLIC LIBRARY. Seventeenth Annual Report of the Trustees, 1869, 8vo pamph.

BOSTON SOCIETY OF NATURAL HISTORY. Proceedings, Vol. xiii. sig. 12.

MORAVIAN HISTORICAL SOCIETY. Transactions 1857 - 1869, 3 pamphlets 8vo; Bethlehem.

NEW ENGLAND HISTORIC-GENEALOGICAL SOCIETY. Address of the Hon. M. P. Wilder, at the Annual Meeting, Jan. 5, 1870. 8vo pamph.

PUBLISHERS. American Literary Gazette. Book Buyer. Christian World. College Review. Cosmos. Eclectic. Essex Banner. Gloucester Telegraph. Haverhill Gazette. Historical Magazine. Lawrence American. L'Investigateur. Lynn Reporter. Medical and Surgical Reporter. Nation. Nature. Peabody Press. Sailors' Magazine and Seaman's Friend. Silliman's Journal.

VERMONT STATE HISTORICAL SOCIETY. Proceedings, 8vo pamph., Montpelier, 1868. Oration by W. W. Grout, Nov. 4, 1869, 8vo pamph., Rutland, 1869. Address before Vermont State Agr. Society at Barlington, Sept. 16, 1869, 8vo pamph.

Mr. W. P. UPHAM, in behalf of the committee previously appointed, reported the following resolutions, which were unanimously accepted.

Resolved, That in the recent and sudden death of Charles Davis, Esq., of Beverly, the Essex Institute recognizes the loss of one of its most efficient members. His earnest devotion to its interests, his constant attendance at its meetings, the important aid he has often rendered by obtaining new members, and in other ways, and finally the liberal bequest by which he has laid a new foundation for the promotion of its objects, will cause his memory to be held in grateful and affectionate regard by this society. His constant and never failing fidelity was a marked feature of his life, as a member and officer of this and other societies; and his thoroughly honest and ingenuous character and genial disposition made him an agreeable associate and companion.

Resolved, That Robert S. Rantoul, Esq., be requested to prepare a memoir of Mr. Davis, to be read at some future meeting of the Society, and published in its Collections.

Resolved, That these Resolutions be entered upon our Records, and that a copy be sent to the family of the deceased.

The PRESIDENT alluded briefly to the history of horticulture in Salem, and expressed the hope that some person, ere long, would undertake the investigation of this subject and present the results at a future meeting.

Pear trees of great age in several gardens indicate that our ancestors, at an early period, were not unmindful of fruit culture.

George Heusler, a native of Landau, in the Province of Alsace, Ger-

many, may be considered as the first professional gardener in this vicinity. He came from Amsterdam to this country in 1780, bringing professional diplomas and recommendations. Soon after his arrival he commenced his horticultural pursuits in the employment of John Tracy of Newburyport, where he married. In 1790 he removed with his family to Salem, and continued the same avocation on the farm of E. Haskett Derby, in Danvers (now Peabody), and in many of the gardens of Salem, Danvers, and other towns of the county, until nearly the time of his decease, which occurred April 3, 1817, at the age of 66 years. He was highly esteemed as an intelligent, upright, kind hearted and religious man; and to him our people are indebted for the introduction of many valuable fruits, and for largely developing a taste for an occupation which has, from that time to the present, received much attention.

Ezekiel Hersey Derby was the third son of E. Haskett Derby, above mentioned, a name distinguished in the commercial annals of Salem as pioneers in the trade to the East Indies, which has contributed so largely to the wealth of this place, and opened a new field to the ever ready enterprise of its citizens. He was a graduate of Harvard, in 1791, and not having the family love of adventure on the ocean, marked out a new path for himself on land, in the pursuits of agriculture. Inheriting an ample fortune, he took possession of the family estate in South Salem, and about the year 1802, began to transform it, under his improving hand, into a delightful residence; the extensive garden and grounds, with the ponds, green-houses, borders of flowers, shrubbery, orchards and belts of forest trees, many of choice imported varieties, soon became one of the most agreeable features in our landscape, and will be pleasantly remembered long after the waves of an increasing population have destroyed every vestige. Here he passed the greater part of his active years in advancing his favorite studies and the objects of the Massachusetts Society for the Promotion of Agriculture, having been one of the founders and for many years a trustee. In our own County of Essex, his name holds a permanent and honorable place.

He died October 31, 1852, aged fourscore years less one day.*

The *Salem Gazette* of Friday, July 13, 1810, contains an interesting account of the opening of a flower of the Night Blooming Cereus (*Cereus grandiflora*) in the garden of E. H. Derby, on the Monday evening previous, and that several of the citizens were gratified with a sight of this rare, beautiful and magnificent flower, undoubtedly its first appearance in Salem. The next flowering of this plant which we

* See obituary notice in *Salem Gazette*, Tuesday, Nov. 2, 1852.—Genealogy of Derby Family in Essex Institute Historical Collections, Vol. iii, page 287.

have on record, is in the garden of J. F. Allen, in July, 1838. This specimen is now in a good state of preservation in the Museum.

On Thursday evening, June 25, 1840, Francis Putnam exhibited three flowers at the rooms of the Essex County Natural History Society. Since that time, every year several have expanded in the houses of Messrs. F. Putnam, C. Hoffman, and perhaps others.

Robert Manning* commenced his Pomological Garden in North Salem, in 1823. At the time of his death, it was unrivalled in the variety of fruits then cultivated, containing nearly one thousand varieties of pears, besides of apples, peaches, plums, cherries, some hundreds more; no precise number having been obtained; probably, including all kinds of fruits, not far from two thousand varieties. His principal object in the formation of this garden was rather to collect together the several varieties in order to identification, to test their qualities and to correct the nomenclature which had been in confusion, than to grow fine specimens or to originate new varieties; these did not much occupy his attention, although several varieties, particularly of cherries, are his seedlings and bear his name. He died October 10, 1842, aged 58, in the midst of his labors and usefulness. He was an enthusiastic and most accurate and discriminating pomologist, and so very familiar with the names and habits of the trees and the qualities of fruits, that he could readily identify at sight even the most rare kinds. He was one of the original members of the Massachusetts Horticultural Society,† and a regular attendant, with liberal contributions almost always labelled, at its earlier exhibitions. He was a man of great simplicity of character and liberality of disposition, freely imparting to others information which cost him much study and research. His labors in the cause of pomological science by the intro-

* *Robert Manning* was born at Salem, July 19, 1784; m. Dec. 20, 1824. Rebecca Dodge Burnham of Ipswich. His principal business in life, aside from his horticultural pursuits, was that of a stage agent; in this occupation several members of his family were largely interested. His sister Elizabeth was the mother of Nathaniel Hawthorne, who had such a brilliant and successful literary career; b. at Salem, July 4, 1804; gr. Bowdoin College, 1825; died at Plymouth, N. H., on a journey for his health, May 19, 1864. His father, Richard Manning, b. at Ipswich, May 29, 1755; m. Miriam Lord, May 30, 1776, and soon after removed to Salem; a blacksmith, stagekeeper and landholder; d. at Newbury while on a journey, April 19, 1813. His grandfather, John Manning, b. March 16, 1703, was the son of Thomas, b. in England, Feb. 11, 1664; admitted an inhabitant of Ipswich, Feb. 10, 1684-5; and d. May 14, 1737. Thomas Manning was the son of Richard Manning, who was baptized at St. Patrick's Parish, Dartmoor, England, in 1622; married Anstice Cally, and had seven children. The father died in England. The mother came over (a widow) with the children, who settled principally in Salem.

† See a series of articles on "Reminiscences of Massachusetts Horticultural Society," now being printed in *Tilton's Journal of Horticulture*, from the pen of John B. Russell, an original member.

duction into general use the best of varieties of fruits, fairly entitle him to be ranked among the public benefactors.

His example seemed to inspire others and to awaken a new interest in this pursuit. The neighborhood soon became famous for its gardens, in which his may be considered as the centre, around which the others crystallized and took form.

The operations in the garden were not suspended in consequence of his death, but were continued many years afterwards; the mantle having seemed to fall naturally upon his eldest son, *Robert Manning*, who inherited the horticultural zeal and tastes of the father; and, having such a prestige, and such an accumulation of experience, was enabled, though a young man, to advance greatly horticultural knowledge and to take a high rank among the horticulturists of the country.

John C. Lee commenced operations in the spring of 1831; John M. Ives in 1836, on the estate now owned by George F. Brown; Charles F. Putnam and brothers in 1841; Pickering Dodge, Francis Peabody, James Upton and others in succession. From these gardens many valuable and important contributions to the horticultural exhibitions in years past were received. Besides the culture of fruit trees, Messrs. Eben and Francis Putnam were successful in the cultivation of the rose, and of this flower no less than five or six hundred varieties bloomed in the month of June, constituting one of the chief attractions of the city some twenty and twenty-five years since. At the same period, and for many years before and since, the garden of Joseph S. Cabot was conspicuous for the magnificent display of tulips, comprising some six or seven hundred varieties, and for a large collection of choice herbaceous plants which kept a succession of blooms during the season.

On the 28th of July, 1853, flowered in the green-house of J. Fiske Allen on Chestnut street, a plant of the *Victoria Regia*, the great water lily of the Amazon, the seed having been obtained of Caleb Cope of Philadelphia, and planted in the early part of the December previous. The following season, 1854, Mr. Allen enlarged his house and tank, and flowered several plants of this lily—the seed of some were obtained from England and planted in March previous, the others from the American plant. The climate in this house being so modified by the surroundings that it was admirably fitted for the growth of other tropical plants; and Mr. Allen arranged a collection of fine orchids, *amaryllis*, *calla*, *nelumbium* and other species of lilies which grew well and produced beautiful flowers, and thus adding greatly to the attraction of this structure, which was for several weeks thronged with many visitors to witness the first blooming of the *Victoria* in the New England States. Mr. Allen has published the

results of his observations on this plant in a beautiful folio volume, finely illustrated by W. Sharpe, from specimens grown at Salem.

In 1843, Mr. Allen commenced the erection of his graperies on Dean street, which soon were greatly extended, so as to embrace several hundred feet of glass, and in which were grown about three hundred varieties of grapes, including several valuable seedlings; also peaches, cherries, and other fruits.

Charles Hoffman, William F. Gardner, William Dean, Richard West, Richard S. Rogers, William D. Pickman, and others, erected houses for the cultivation of flowers or the grape.

The Natural History Society, soon after its organization in December, 1833, opened its rooms for exhibitions of fruits and flowers. The first was held at the rooms on Essex street opposite Central street, on Friday, July 11, 1834, and was very creditable to our florists, many beautiful and some rare plants and flowers having been shown. The contributors were Stephen Driver, Jr., J. S. Cabot, Charles Lawrence, John M. Ives, Thomas Spencer, Mrs. G. S. Johannot, the Misses Ashton and John Bertram. These exhibitions were continued on every Friday during the season, and among the contributors, besides those previously mentioned, were the names of Francis Putnam, George D. Phippen, Benjamin Creamer, W. F. Gardner, John C. Lee, N. Silsbee, Jr., B. H. Ives, E. H. Derby, Mrs. J. D. Treadwell, Robert Manning, William Dean, W. P. Richardson, and others. The success attending these first efforts, induced a continuance the following and successive seasons, with greater or less frequency, as circumstances would permit, until that of 1866, when from unavoidable reasons they were omitted, and since that time none have been held. May they be resumed the coming season with increased interest, and the horticultural department again take its former high position among the doings of the Institute.

In every exhibition special attention had been directed to have properly arranged a collection of the native plants of the county, then in flower, particularly those that are rare and curious, and are only found in the most inaccessible localities, thus affording all an opportunity to observe that portion of our flora not usually noticed in the ordinary walks.

The exhibitions, humble and unpretending in their origin, gradually increased in interest and attracted much attention, and undoubtedly have been the means of developing a more general and extensive taste for horticultural pursuits in this community. At the earlier exhibitions the contributions were small, afterwards gradually became more extensive, and at the one in September, 1850, one hundred and ninety-one individuals contributed two thousand dishes or baskets of fruit, consisting of six hundred and sixty-nine varieties.

In reviewing the several lists of contributions, a gradual change is perceptible by the introduction of new and the disappearance of old familiar species and varieties. The dahlia, once so conspicuous and exciting so much interest among cultivators, who numbered the varieties by hundreds, no longer holds that sway in the floral world. The plums, among our fruits, are scarcely seen, some twenty-five years since so fine and luscious in flavor, so attractive in appearance and in great variety.

The opening of communication with China and Japan have introduced, mainly through Mr. Fortune, the botanist, many beautiful shrubs and other plants, which add largely to the attractions of our gardens and lawns. An interesting and very valuable paper could be written on this subject, giving an account of the garden and its flowers during the first years of the exhibitions, and contrasting the same with those of the present day.

Having briefly noticed a few incidents in the history of horticulture in Salem, a theme so prolific in interesting materials, I now introduce to you our associate member, Mr. CHARLES H. HIGBEE, who will give some account of the experiments of Mr. Edward S. Rogers of this city, in the hybridization of the grape, which have resulted in the introduction of several choice and fine new varieties. It is a cause of gratulation that we have among us those who are now actively engaged in advancing this science, which in the past has enrolled so many names distinguished for their zeal, learning and general culture.

The remainder of the evening was occupied in the reading of an interesting paper by Mr. CHARLES H. HIGBEE, on the "Hybridization of Grapes," referring especially to the method adopted by Mr. Edward S. Rogers of Salem. (See an abstract of this paper on page 17.)

A discussion followed the reading of this paper, which was participated in by several members.

QUARTERLY MEETING, WEDNESDAY, FEBRUARY, 9, 1870.

THE PRESIDENT in the chair. Records of preceding meeting read.

Nathaniel Ropes of Cincinnati, and Frank A. Fielden of Salem, were elected members.

The Secretary mentioned that Mr. Rantoul had given a favorable answer to the request of the Institute to read the memoir of the late Charles Davis, provided that he could have sufficient time to prepare the same.

REGULAR MEETING, MONDAY, FEBRUARY 21, 1870.

The President introduced Mr. EDWARD E. CHEVER of Chicago, Ill., a native of Salem, who gave an interesting account of the Indians of California, an abstract of which is here annexed.

*The Indians of California.**

THE name "Digger," which Fremont gave to the Indians that he found on the eastern slope of the Sierra Nevada, has been applied by the readers of Fremont's work to all the Indians in California.†

The name was really applicable to those whom he first met with, but not to the Indians living on the other side of the mountains, who spoke a different language and were more provident than those living on the great plains east of the Rocky Mountains.

The Indians of California, in 1849, were the more interesting to the ethnologist from the manner in which that country had been settled. The Jesuits, it is true, had been in Lower California for many years, and had established mission schools there, and a few Europeans had a short time before made scattered settlements in the Sacramento Valley, but the whole country was so remote from our frontiers, and inclosed by the intervening barriers of the Rocky Mountains and the snows of the Sierra Nevada Range, that it had been but little changed from its first discovery by the whites. Many Indian tribes were living in a perfect state of nature as the elk, deer or antelope that furnished them food. The children had their ears bored when quite young and small sticks inserted; these were exchanged from time to time for larger sticks, until a bone ornament, made from one of the larger bones of a pelican's wings carved in rude style, and decorated at the end with crimson feathers, could be worn permanently. This bone was about five or six inches long and larger in size than my little finger. The back hair of the men was fastened up in a net, and this was made fast by a pin of hard wood pushed through both hair and net, the large end of the pin being ornamented with crimson feathers, obtained from the head of a species of woodpecker, and sometimes also with the tail feathers of an eagle. The women used no nets for their hair, nor wore feathers as ornaments, excepting in the end of the bones used by both sexes for the ears, which I have already described.

An Indian could no more remember when he learned to swim than when he first stood on his feet. When the children were disposed to be good natured the girls petted them as kindly as our children tend dolls, but if they were cross, in spite of their caresses, they threw cold water in their faces until their tempers cooled. The girls fully

*It is but justice to our author to state that his familiarity with the language of the tribes during five years of friendly personal intercourse has given him a rare opportunity of forming a correct judgment of what these Indians really were before they were demoralized by contact with the whites. The author's remarks will be found published in full in the *American Naturalist* for May, 1870, with several illustrations. — EDS.

†The Indian tribes of the section I am describing, called themselves respectively, Sesum, Hocktem, Vubum, Hololipi, Willem, Tankum, and inhabited the valley of northern California, between the Sierra Nevada and the Coast Range.

equalled the boys in swimming or diving, and also used the paddle with skill sometimes even beating the boys in their canoe or foot races. Their winter quarters are dry and warm, but are rarely free from smoke, which the Indians do not seem to regard as an inconvenience. The outside is covered with earth and at least a half of the hut is below the surface of the ground. The inside shows strong posts supporting an arched roof made of poles bound with grapevines, and these covered with reeds and coarse grass secured by cords. A small hole in the roof serves as a chimney, and a low door, usually on the south side, is kept open excepting in stormy weather. A raised platform of poles and reeds holds the skins and blankets used for bedding. The hunting and fishing were done wholly by men, and some of the fishing was done at night when the women were sleeping at home. Much of the drudgery came to the women and seemingly with their consent. They said that a hunter needed a keen eye, a firm hand and a fleet foot; if he became stiff from hard work or lost his skill, his wife must suffer with him in his misfortunes, and it was best for each to do what each could do best.

An Indian to be judged fairly must be regarded as an Indian. Custom with them, as with civilized people, is law, and many of their customs have probably been transmitted with but little change from remote ages. Their religion is probably little changed from that of an earlier age. A Good Spirit is invoked to provide food and give prosperity, and evil spirits are to be propitiated. The oldest chief prays at certain seasons, morning and evening, outside of the council lodge, and sings in a monotone a few sentences only. This is not in words taken from their language, but is supposed to be intelligible to the Great Spirit. When special prayers are made for success in fishing or hunting the request is made in plain Indian. Although he prays constantly for success, he uses wonderful craft and skill to ensure it.

To illustrate the ease with which an Indian can provide food for himself, I saw one come to the bank of Feather River one afternoon and start a fire. Turning over the sod and searching under the logs and stones he found some grubs. Pulling up some light dry reeds of the last year's growth he plucked a few hairs from his own head and tied the grubs to the bottom of the reeds, surrounding the bait with a circle of loops. These reeds were now stuck lightly in the mud and shallow water near the edge of the river, and he squatted and watched the tops of his reeds. Not a sound broke the quiet of the place now; the Indian was as motionless as the trees that shaded him. Presently one of the reeds trembled at the top and the Indian quietly placed his thumb and finger on the reed and with a light toss a fish was thrown on the grass. The reed was then put back, another reed shook and two fish were thrown out; then still another and the fellow was soon cooking his dinner.

The Indians hunt for one kind of game only at a time, and each kind at a time that they can be taken most advantageously. When I saw every kind of game represented together at the Indian encampment in Bierstadt's painting of the Yosemite, I knew the camp had been introduced for effect, from the evident ignorance or disregard for the habits of the Indians.

It would consume too much space to describe all their implements, and many of them do not differ materially from those that were used by Indians in this section; among them were awls of bone, thread

of deer sinews, and cord which they used for their nets, bird traps, and blankets; this cord was spun from the inner fibre of a species of milk-weed. Their cooking utensils were made from the roots of a coarse grass. These roots grew near the surface of the ground, and in sandy soil can be pulled up in long pieces. The pulpy outside skin is removed and the inside is a woody fibre, extremely tough when green, and durable when made into articles for daily use. The Indian women split these roots into thin strips and keep them in water when they are making baskets and take out one at a time, as needed. The water basket is first started from a centre at the bottom, and is added to stitch by stitch, without a skeleton frame to indicate the intended size. A loose strip of grass root is added constantly as a new layer to the last rim, and this is sewed on with another strip of the same fibre to the finished work beneath, a bone awl being used to bore holes through the basket portion. The water baskets were durable and would hold hot water.* Water was made to boil in them by dropping in stones heated previously. The women skillfully used two sticks in handling hot stones or coals as we would tongs.

In bread making the women pounded the acorns between two stones, a hollowed one serving for a mortar, until it was reduced to a powder as fine as our corn meal. They removed some of the bitterness of the meal by scraping hollows in the sand and leaching it, by causing water to percolate slowly through it. To prepare it for cooking the dough was wrapped in green leaves and these balls were covered with hot stones. It comes out dark colored and not appetizing, but it is nutritious and was eaten with gratitude by Fremont's men in 1844. Fish and meat were sometimes cooked in this way. A salmon rolled in grape leaves and surrounded with hot stones, the whole covered with dry earth or ashes over night and taken out hot for breakfast, does not need a hunter's appetite for its appreciation.

Marriage among the California Indians was similar to that of other tribes in other parts of the country. Presents of sufficient value were given by the men to the girl's parents, and the bride might be given away without her knowledge or consent. They were naturally cheerful and attached to each other, and although polygamy was permitted, I knew only one chief who had two wives. These seemed to agree, although Waketo said of his family that it had "too much tongue."

In earlier days dancing among them was confined to ceremonies of different kinds. In some of these the women joined, forming themselves into a circle; but as only one step was used in a solemn way, accompanied by a half turning of the body, a stranger might be in doubt whether it was rejoicing or mourning. Within this circle the men danced with great activity, leaping across a fire burning in the centre, and yelling and singing whilst the women continued their solemn dancing, singing a low monotonous chant.

The Indians were inveterate gamblers and parties from one tribe would visit another for several days at a time and play day and night. The game was a sort of an "odd and even," as played by white children, the parties guessing as to the number and position of the sticks used in the game. The playing was accompanied by singing and beads were principally used for stakes.

In the treatment of diseases the Indians succeeded in a certain class of them, but failed altogether in others. The pain from a sprain or

* A shallow basket of their work, which has been in the Museum for several years, now holds cold water as perfectly as when it was made.

rheumatism would be drawn to the surface by burning the skin with fire. I can testify to a cure from this remedy. For headaches they pressed their hands on the head of the sufferer and sometimes cured it by gentle pressure. For other diseases they tried steam baths, especially for colds. When any internal disorder defied their treatment they immediately begged medicine from the whites.

In burying the dead a circular hole was dug and the body placed in it, in a sitting posture, with the head resting on the knees. If a man his nets were rolled about him and his weapons by his side. If a woman, her blanket enclosed her body, and a conical shaped basket, such as they carry burdens in, was put into the grave also, with the peak upwards.

The language of the California Indians is composed of guttural sounds, difficult to separate into words when spoken rapidly and hard to pronounce or remember. The counting is done, as with all primitive people I have met, by decimals. Children in reckoning call off the fingers and toes of both hands and feet as twenty, when wishing to express a large number. In counting ten the following words are used: Weekum, Paynay, Sarpun, Tehuyum, Maretem, Suckanay, Penimbom, Pencum, Peleum, Marchocom. If eleven is to be expressed it is Marchocum, Weekum or Ten one; Marchocum, Paynay, ten two, and so on to twenty which is Midequecum. The general term for man is Miadin, and for woman Killem, and for a child Collem. A boy is Miadim collem and a girl Killem collem. Although this seems to indicate a poverty of distinctive terms, yet when it is found that every animal, bird, insect and plant has its own name, it will be seen that there is no want of materials to supply a stranger with words for book making, if his tastes lead him in that direction.

After many years passed with these Indians, and having every opportunity to study their customs and character, I entertain pleasant recollections of their friendship which was never broken, and feel sadly when I realize that the improvements of the white men have been at the sacrifice of Indian homes and almost of the race itself.

It has been customary to attribute certain general qualities to whole tribes of Indians, and this has been done to those of whom I have written. I can only say, that no two Indians of my acquaintance were alike, and their mode of life would naturally develop individuality of character.

The charges of lying and stealing, as urged against them, have some foundation in fact, although the Indian might make some such defence as our soldiers made to the accusation of theft of honey and chickens while marching through the South during our war. They did not steal, they *took* what they wanted and expected to live on the enemy. No Indian can steal from his tribe, however, without losing his character, and their desire to have position in the tribe makes both men and women as careful of their reputations as those of civilized life.

Indian cunning even has not proved equal to the duplicity of the white man. You may have heard of the Indian who offered his beaver skins for sale to a trader in olden times in one of our Puritan villages, when the trader was on his way to church. The trader would not purchase then, but in a whisper stated a price. When the church was dismissed the Indian followed the trader home and demanded payment for his skins, but was forced to accept a less price than was first named. The Indian took the money but told an ac-

quaintance that he had discovered the use of the big meeting at the church, — "it was to lower the price of beaver skins."

As a white man I take the side of the pioneer in defence of his family, but I wish the Indians could have been spared much of the degradation brought upon them by bad white men that must eventually end in complete subjection, or extermination.

On motion of Mr. HYATT a vote of thanks was passed for the very interesting paper, and referred to the publication committee.

Mr. ROBERT PEELE presented a musket, an interesting relic, with the following statement: — "Muskets of this pattern were formerly used by the non-commissioned officers of the English army, in addition to side arms; the breach is made more crooked than the common musket or the King's-arm, and is formed to fit the back of the soldier, where it was carried by a strap. This musket was brought to this country by an officer of the English army during the French war of 1755-6. The militia connected with the regular troops were drafted by the Governor's orders, from the several towns. Among those from Charlestown was a Mr. Graves, who, during the campaign, formed the acquaintance of one of the non-commissioned officers of regular troops, and from him obtained this piece, which he brought to Charlestown on his return and soon after sold it to his brother-in-law, Nathaniel Chamberlain, then living in Charlestown. Mr. Chamberlain, was a bricklayer by trade, came to Salem in 1773, and died about 1837, over ninety years of age. On his first removal to Salem he lived in the house of my grandfather, Robert Peele, and during that year sold to him this musket, which has been in the family to the present time, ninety-seven years. It had no bayonet when first owned by my grandfather; to meet the requirements of the militia law one was fitted. During the Revolutionary war my grandfather carried it to Lexington under Col. Timothy Pickering; to Rhode Island under Captain Flagg, and on all occasions required by law. My father, (Robert Peele, Jr.) in discharging the duties of a citizen soldier under the laws of the State; and by myself during the war of 1812 and 1813, in the discharge of guard duty on Salem Neck, and other occasions when required. It is in good condition although somewhat antiquated, having a flint lock. At your request, Mr. President, I have named all the facts known to me in the history of the above named musket, and would mention that they were often cited by my father, and that Mr. Chamberlain, who first brought it to Salem, had several times, in my presence, made the same statement."

Mr. CALEB COOKE stated that Mr. Luther Clapp of Salem, had shot on the 12th of February (1870), a female of the *Lynx rufus* (Bay Lynx) in the woods of Essex. Length of head and body twenty-nine inches; weight seventeen pounds.

BULLETIN

OF THE

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FIRST HOUSES IN SALEM.

BY W. P. UPHAM.

[Continued from Vol. 1. p. 150.]

APPENDIX.

THE only place in Salem which is associated, by name, with the Old Planters of 1626, is the large open field on the right of the northerly end of Bridge street, which was for many years known as the "Planters Marsh." This has naturally led some to suppose that the first settlement of Salem, in 1626, was in that vicinity. We fail, however, to find anything in published accounts, or in the records, to support such a belief, except in the following statements by Rev. Dr. Bentley, and by Hon. Robert Rantoul, Sen.

Bentley, in his Description of Salem (Mass. Hist. Coll. Vol. 6, p. 233), says:—"Salem, considered as within its present bounds, was first settled upon North River. Shallop Cove (now Collins Cove), open to Beverly harbour, was then much employed." Again, p. 231, "When Francis Higginson arrived, in 1629, there were only six houses, besides that of Gov. Endicott, and these

were not on the land now called Salem." He also says (p. 228), "The first fort was on Beverly side, and erected by Conant's men, before Endicott arrived. It was called Darbie or Derby fort." This latter statement, that Darby fort was on Beverly side, and was built by Conant before Endicott's arrival, explains why he thought the first houses were not where Salem is now; and proves that in this part of his history he must have relied upon false tradition or incorrect information, for there is abundant evidence which shows conclusively that Darby fort* was on Marblehead side; and the depositions of Richard Brackenbury and Humphrey Woodbury, in 1681, made for the purpose of proving an early possession of the land on Beverly side, in opposition to Mason's claim, show us that when the Old Planters removed from Cape Ann (Gloucester), they came "to the neck of land since called Salem," and built their first houses there; and that they took possession of the land on Cape Ann side (Beverly), sometime after the arrival of Endicott. (See Thornton's Cape Ann, Appendix).

In the Account of Beverly by Mr. Rantoul (Mass. Hist. Coll. 3 Ser. Vol. 7, p. 254), he states that "Roger Conant, John Balch, John Woodbury and Peter Palfrey, first settled, in 1626, on the neck of land between Collins Cove on the south, and the North River on the north, in Salem." "Their first houses were near to the margin of the river, and their lots running from the river, across the neck to Collins cove." No authority is given for this statement, and it is most likely that it rests upon some tradition derived from the name "Planters Marsh." We have carefully traced the history of the house-lots on the neck of land above described, and

*Thomas Oliver, in 1658, conveyed to John Bradstreet ten acres "on Marblehead Neck, butting upon Forrest River, and having in the south end an old Indian Fort."

though we can show who owned and occupied them back to a very early date, we find no evidence that any of them were ever owned by the Old Planters.

Let us now see whether any of the descriptions by the early writers will throw any light upon this question.

In "New England's Plantation," written by Rev. Francis Higginson, and printed at London in 1630 (see Force's Tracts, Vol. 1), the writer describes the soil as being sandy "all about our Plantation at Salem, for so our Towne is now named, Psal. 76, 2." "When we came first to Neihum-kek, we found about halfe a score houses and a faire house newly built for the Governour. We found also abundance of corn planted by them very good and well likeing."

In Wm. Wood's "New England Prospect," p. 50, we find, "Four miles north-east from Saugus lies Salem, which stands on the middle of a neck of land very pleasantly, having a South River on the one side, and a North River on the other side; upon this neck where most of the houses stand, is very bad and sandy ground, yet for seven years together it hath brought forth exceeding good corn, it being fished but every three years; in some places is very good ground, and good timber, and divers springs hard by the sea side."

Wm. Wood left New England, Aug. 15th, 1633, therefore corn had been planted on the sandy *neck of land* in 1626. His description would seem to apply to the central portion of the present city.

In "Planter's Plea," London, 1630 (Force's Tracts, Vol. 2), we find it stated that the first planters removed from Cape Ann (Gloucester) "to Nahum-keike, about foure or five leagues distant to the south-west from Cape Anne."

In the "History of New England" (Mass. Hist. Coll. 2

Ser. Vol. 5, p. 102), written by Wm. Hubbard, who was well acquainted with Roger Conant, he says, "After they had made another short trial there (Cape Ann), of about a year's continuance, they removed a third time a little lower towards the bottom of the bay, being invited by the accommodations which they either saw, or hoped to find on the other side of the creek near by, called Naumkeag, which afforded a considerable quantity of planting land near adjoining thereto. Here they took up their station upon a pleasant and fruitful neck of land, invironed with an arm of the sea on each side, in either of which vessels and ships of good burthen might safely anchor. In this place (soon after by a minister that came with a company of honest planters) called Salem, from that in Psal. lxxvi, 2, was laid the first foundation on which the next Colonies were built." He also says that Roger Conant had previously examined this place, "secretly conceiving in his mind, that in following times (as since is fallen out) it might prove a receptacle for such as upon the account of religion would be willing to begin a foreign plantation in this part of the world, of which he gave some intimation to his friends in England."

As Collins Cove is almost dry at low tide, it would be impossible for "ships of good burthen to safely anchor" there. Indeed it seems to us quite evident that the *neck of land* which these early writers refer to, must mean that upon which the main part of the town now stands, between the North River and the South River.

We propose now to show who were the occupants of the land near what is now Bridge street, at the earliest date to which we have been able to trace its history.

Where the Gas Works are now, was called Neal's Point; the Cove south of it was called Waller's Cove, and that to the north of it Massey's Cove.

On the north-west side of Bridge street, and south-west of Skerry street, was the homestead of Francis Skerry, and adjoining it on the north-east, was the homestead of Jeffry Massey, both of whom were for many years prominent in town affairs. Between that and Robbins Lane, which was where the school house is now, was a two-acre lot on which lived Richard Brackenbury, before he removed to Beverly, which was before the year 1640.

On the land north-east of Robbins Lane, lived at about the year 1640, James Smith, Michael Sallows, Thomas Read, John Tucker, Thomas Robins and George Ropes; and near them also Francis Nurse, Wm. Bennett, [Wm.] Waller, Thomas Edwards, and George Wathen. At the point just east of the Salem end of Beverly Bridge was the Ferry landing place, and there lived John Stone, who, in 1636, was appointed to keep the ferry from that point across to Cape Ann side, as Beverly was then called, John Massey, who kept the Ferry after 1686, lived on the same site.

On the south-east side of Bridge street, and extending from where Pickman street is, nearly to Barton street, was the Ship Tavern Pasture, so-called, which was owned by John Gedney, who kept the Ship Tavern where the Mansion House lately stood. It consisted of twelve acres, six of which he bought of George Emory, before 1649, and two of Richard Graves, in 1650, and the other four of Margaret Rix, in 1655. This land was conveyed by the heirs of John Gedney to Deliverance Parkman, in 1698, and by the widow of his grandson, George Curwen, to Benjamin Pickman, in 1749. Deliverance Parkman, in 1714, was allowed four rights "for Josiah Rootes, Edward Giles, [Philemon] Dickenson and John Borne's cottage rights in the Great Pasture, formerly Mr. Gedney's."

Where Barton street is now was a lot of four acres conveyed by Robert Goodell to Francis Skerry, in 1653. Francis Skerry left it to Henry Lunt, who conveyed it to John Higginson, jr., in 1695. John Gardner conveyed it to Lydia Barton, in 1811. By the depositions of Nathaniel Felton and John Massey, recorded in our Registry, B. 11, L. 254, it appears that this was originally two two-acre lots, on which lived Robert Goodell and Peter Woolfe.

Next north-east of this, and including where Osgood's wharf is, was a lot of three and a half acres, which was owned by Jeffry Massey, in 1653, and on which Capt. Thomas Lothrop had previously lived, as appears by the depositions of Samuel Ebourne, Nathaniel Felton and John Massey (See Registry, B. 21, L. 251). John Massey conveyed it to Philip Cromwell, in 1680. The heirs of John Cromwell sold it to Benjamin Gerrish, in 1700, and his heirs to Samuel Carlton, in 1736.

Next north-east was a lot of about four acres, which extended nearly to where Osgood street is now. This was owned by Gervais Garford, and is one of the few lots in Salem which we can trace back to the original grant. The town granted to him and his daughter, Mrs. Ann Turland, Dec. 7, 1635, each "a two-acre lot upon the north side of [Burley's] Cove," "both abutting upon Michael Sallowes and James Smyth's lots, provided they both build upon them and see be ready to sell his house in the towne." This language would seem to indicate that the locality was at that time considered as being "out of town." The lots of Sallowes and Smith were, as already stated, on the other side of the ferry lane, and north-east of Robbins lane. Garford sold his lot, with three acres of marsh adjoining, to Henry Bartholomew, in 1650, and he assigned it to John Browne, in

1653, who gave it to his sons, John Browne and James Browne, in 1675. In 1654 the town also granted to John Browne "all that land enclosed as well meadow as upland which was latelie in the possession of Mr. Garford," and it remained in his family for many years, and was conveyed to Samuel Carlton, in 1734. Gervais Garford was living on this land in 1640.

Next north-east was another lot of three acres, owned and occupied very early by [Joseph] Young, and which was afterwards owned by John Robinson, who conveyed it, in 1694, to Bartholomew Browne, whose administrator conveyed it, together with a part of the Garford lot, to James Lindall, in 1720, and Timothy Lindall conveyed it to Benjamin Pickman in 1758.

Next was a three-acre lot owned in 1658 by Daniel Rumball, and conveyed by his son-in-law, Wm. Curtice, to Samuel Browne, in 1710, it being described in the deed as "the Potter's field," and bounded south by "Potter's lane leading down to Planters Marsh." This lane can still be traced, running along near the south side of where the old Ropewalk was. It was leased by the town to Francis Skerry, in 1680, and was sold in 1740, to Wm. Browne. The name of this field has given rise to the impression that it was originally used as a burial place; and from this, probably, has originated the tradition that the Lady Arbella Johnson was buried there, the remains of a monument even, it is thought, having been found near there.* But this shows how little reliance can be placed upon mere tradition, unsupported by other evidence; for it seems quite clear, from the facts which we shall now state, that this name, "the Potter's field," was derived from the occupation of the person who first lived there.

[*To be continued.*]

* See Felt, Vol. 2, p. 446, also 1st edition, p. 522.

REGULAR MEETING, MONDAY, MARCH 7, 1870.

The President in the chair. Records of preceding meeting read.

The Secretary reported the following correspondence.

J. F. A. Andrews, Pittsfield, Mass., Jan. 27, Feb. 5, 7; Bowdoin College, Brunswick, Me., Feb. 5, 24; British Archaeological Association, London, Nov. 20, 1869; Buffalo Hist. Soc., Buffalo, Feb. 7, 23; Mrs. E. F. Condit, Newark, N. J., Feb. 16; B. A. Gould, Cambridge, Mass., Feb. 15, 18; A. C. Hamlin, Bangor, Me., Feb. 6, 11; P. A. Hanaford, Reading, Mass., Feb. 15; E. V. Jameson, Salisbury, Mass., Feb. 15; Iowa State Hist. Soc., Iowa City, Feb. 15; D. W. King, Boston, Feb. 12; Konigliche Gesellschaft der Wissenschaften, Leipzig, Aug. 13, 1869; Konigliche Sachsische Gesellschaft der Wissenschaften, Leipzig, Aug. 13, 1869; Maryland Acad. Science, Baltimore, Dec. 16, 1869; Moravian Hist. Soc., Nazareth, Pa., Feb. 12; Naturg. Gesellsch. of Basel, Sept. 11, 1869; Natur. Verein du Bremen, Aug. 20, 1869; New England Hist. and Gen. Soc., Boston, Feb. 7, 22; Oberhessische Gesellschaft, Giessen, Sept. 2, 1869; Public Library of Boston, Feb. 8; Soc. Royale des Sciences, Christiania, Dec. 15, 1869; Soc. Royale du Zoologie, Amsterdam, May 31, 1869; W. Hudson Stephens, Copenhagen, N. Y., Feb. 13; J. H. Stickney, Baltimore, Feb. 7, 10; Universite Royale de Norvege, Christiania, Nov. 29, 1869; Universite Lugduno-Batavia, July 22, 1869; Yale College, New Haven, Feb. 7. American Entomologist, St. Louis, Feb. 24; W. V. Andrews, New York, Dec. 20 and 17; Jacob Batchelder, Lynn, Feb. 25; Chicago Hist. Society, Chicago, March 3; City Library, Lowell, Jan. 21; Department of Interior, Washington, Feb. 22; Chas. Hamilton, New York, Feb. 21; Hist. Phil. Society of Ohio, Cincinnati, Feb. 24; Ferd. J. Hsley, Newark, Feb. 22; New York Hist. Society, N. Y., Feb. 23; New York State Library, Albany, Jan. 20; Mass. Institute of Technology, Boston, Feb. 22; A. E. Verrill, New Haven, Conn., Feb. 24; William Wood, E. Windsor Hill, Conn., Feb. 22.

The Superintendent reported the following Donations to the Museums of the Institute and the Academy.

Lieut. ASA T. ABBOTT, U. S. A. Two species of Fish from Tortugas.

M. A. ALLEN, Key West. Coral from Tortugas.

Rev. C. J. S. BETHUNE, Credit, Canada. Sixteen Indian Relics from vicinity of Credit; four specimens of Fossils from the same place.

ELAM BURNHAM, Hamilton. Gos-hawk from Hamilton.

EDW. E. CHEVER, Chicago. Two Stone Arrowheads from Twin Lake, Colorado; Fossil Wood, from Colorado.

THOMAS CLEMENS, Key West, Fla. Coral from Tortugas.

JOHN L. COCHRANE, Peabody. Hawk from Peabody.

Miss CAROLINE FOLLANSBEE. Minerals of the Hot Springs of California; Paper made from the Red Wood of California; two Japanese Coins.

THOMAS GERAGHTY, Key West, Fla. Collection of Coral from Tortugas.

JOHN GOULD, Ipswich. Two Stone Arrowheads and a very small Stone Sinker found at Ipswich.

Col. CHAS. HAMILTON, U. S. A. Crustaceans, from Tortugas, Fla.

ROBERT HOWELL, Nichols, N. Y. A collection of Indian Relics from the vicinity of that place.

CHARLES LAWRENCE, Danvers. Stone Arrowheads from that place.

A. S. PACKARD, Jr., Salem. A collection of Reptiles, Fishes, Mollusks, Articulates, Radiates, etc., from Key West and Tortugas, Fla.

Lieut. ALBERT S. PIKE, U. S. A. Crustacea from Tortugas.

W. T. PHILLIPS, Marblehead. A fine specimen of *Solemyia borealis*, and other Mollusks and Crustaceans, from Marblehead.

JOHN B. ROWELL, Tortugas. Shell of Green Turtle, Shells and Hermit-Crabs, from Tortugas.

THEODORE SAMPSON. A collection of Plants collected in the vicinity of Hong Kong, in 1868-9.

SMITHSONIAN INSTITUTION. A collection of European and British Shells, containing three hundred and forty-four species.

Dr. S. A. STORROW, U. S. A. Several specimens of *Gorgonia* from Tortugas.

W. STROBEL, Baltimore. Two specimens *Nerite pleoronta* from Key West, Fla.

CHARLES VEACH. Alcoholic Mollusca from Chariton, Miss.

Miss M. G. WHEATLAND, Salem. Specimen of Radiates from the Isles of Shoals.

The Librarian reported the following additions to the Library.

By Donation.

BETHUNE, CHARLES J. Canada Directory for 1857-58, 1 vol. 8vo. Toronto Central Directory for 1856, 1 vol. 8vo.

BUTLER, BENJ. F., M. C. Monthly Report of the Department of Agriculture for January, 1870, 8vo pamph. Speech of Hon. Z. Chandler, in U. S. Senate, on "Pope's Campaign," 8vo pamph.

DREER, FERDINAND J., of Philadelphia. Centennial Celebration by the Annin Family, at the Old Stone House in Somerset Co., N. J., 1 vol. 8vo, Philadelphia.

GOODELL, ABNER C., Jr. Bangor, Lawrence, Manchester, Fall River, and Taunton Directories for 1869, 5 vols. 8vo.

HAMMOND, CHARLES, of Monson. Jubilee Discourse at the Celebration of the Semi-Centennial Anniversary of the Linophilian Society in Monson Academy, by C. C. Carpenter, 8vo pamph., 1869.

LINCOLN, SOLOMON, Jr. Early Settlers of Hingham, New England, 4to pamph., Boston, 1865.

LORING & ATKINSON. Cotton Culture and the South Considered with Reference to Emigration, 12mo pamph., Boston, 1869.

NOBLE, EDWARD H. Views selected from the Malta Penny Magazine, Vol. I, 4to pamph, 1845.

PAINE, NATHANIEL, of Worcester. Worcester Directory for 1869, 1 vol. 8vo.

PERLEY, JONATHAN. Essex County Directory for 1866, 1869-70, 2 vols. 8vo.

PRENOMME, M. ALF., de Borre. Description d'une Nouvelle espèce Americaine du Genre Caiman. Alligator, 8vo pamph. Description d'une espèce Americaine de la Famille des Elodites, 8vo pamph.

SALEM WATER WORKS. Account of the Proceedings upon the Transfer of the Salem Water Works to the City Authorities, 1 vol. 8vo, Salem, 1869.

STONE EDWIN M., of Providence, R. I. Twenty-eighth Annual Report of the Ministry at Large, 8vo pamph., Providence, 1870.

SUMNER, CHARLES, U. S. Sen. Report of the Commissioners of Agriculture for 1868, 1 vol. 8vo. Message and Documents, 1868-69, 1 vol. 8vo. Speech of Hon. C. Sumner in U. S. Senate, on "Financial Reconstruction and Specie Payments," 8vo pamph.

UPHAM, J. BAXTER, of Boston. Dedication of a Soldiers' Monument at Claremont, N. H., Oct. 19, 1869, 8vo pamph.

WATERS, J. LINTON, of Chicago. Report of the Superintendent of Public Instruction of Illinois, 1865-1868, 2 vols. 8vo. Treasurer's Report, Illinois, 1867, 1 vol. 8vo. Miscellaneous pamphlets, 10. History of the Chicago River Tunnel, 8vo pamph. Twelfth Annual Report of the Trade and Commerce of Chicago, for 1869, 8vo pamph.

WILLIAMS, WILLIAM O., Dartmouth College. The Aegis, 1867, 8vo pamph.

By Exchange.

AMERICAN ENTOMOLOGICAL SOCIETY. Transactions, Vol. 2, No. 4, 8vo pamph., Philadelphia.

BERGENSKE MUSEUM. Astrand om Bredde og Laengda, 4to pamph., 1864. Beretning om den Internationale Fiskerindstilling, 1865, 1 vol. 4to. Catalog. over de til den internationale Fiskerindstilling, 12mo pamph. Baars Les Peches de la Norwége, 8vo pamph., Paris, 1867. Koren med Danielssen's Peetinibranchiernes Udviklingshistorie, med Supplement, 8vo pamphs., 1851. Danielssen's Syphilisationen, 8vo pamph. Danielssen's Zoologisk Reise, 8vo pamph.

BOSTON SOCIETY OF NATURAL HISTORY. Proceedings for Feb., 1869, Vol. xiii, sig. 13, 8vo pamph.

BUFFALO HISTORICAL SOCIETY. Buffalo Directory for 1867, 1868, 2 vols. 8vo.

BIDRAGEN TOT DE DIERKENDE. Uitgegeven door het Genootschap Natura Artis Magistra, te Amsterdam, 1869, 4to pamph.

DORCHESTER ANTIQUARIAN AND HISTORICAL SOCIETY. Taxable Valuation of the Town of Dorchester, 1869, 1 vol. 8vo. Sermon by Rev. James H. Means at Dorchester, 8vo pamph., Boston, 1870.

KONGELIGE NORSKE UNIVERSITET. Det Kongelige Norske Videnskabers-Selskabs Skrifter, 1865, 1868, 2 pamphlets 8vo, Throndhjem. Norsk Meteorologisk Aarbog, 1867-1868, Christiania. Le Glacier de Bovum en Juillet, 1868, 4to pamph. En Anatomisk Beskrivelse af de paa Over-og Underextremiteterne forekommende Bursæ Mucosæ, 4to pamph., 1869. Index Scholarum, 1869, 4to pamph. La Norwége Littéraire, 1868, 8vo pamph. Beretning om Lungegaardshospitalets, Virksomhed, 1865-1867, 8vo pamph. Frederiks Universitets, 1868, 8vo pamph. Forhandlingeri Videnskabs-Selskabet, 8vo pamph. Thomas Saga Erkiþysknups, 8vo pamph., 1909. Danielssen Om Spedalskhedens Therapie.

MASSACHUSETTS HORTICULTURAL SOCIETY. Transactions for the year 1869, 8vo pamph.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY. Fifth Annual Catalogue of the Officers and Students, 1869-70, 8vo pamph.

MICHIGAN STATE AGRICULTURAL COLLEGE. Address before the Board of Agriculture, Faculty and Students, by G. Willard, at Lansing, August 25, 1869, 8vo pamph.

PEABODY INSTITUTE, Baltimore, Md. Report of Adj. General of Maryland, 1869, 8vo pamph. Address of the President of Peabody Institute to the Board of Trustees, Feb. 12, 1870, 8vo pamph.

PHILADELPHIA ACADEMY OF NATURAL SCIENCES. Proceedings for August to December, 1869, 8vo pamph.

NATURWISSENSCHAFTLICHE GESELLSCHAFT. Sitzungs-Bericht der naturwissenschaftlichen Gesellschaft Isis in Dresden, 8vo pamph., 1869.

NEW BEDFORD PUBLIC LIBRARY. Eighteenth Annual Report of the Trustees, 8vo pamph.

SOCIETE DES SCIENCES NATURELLE de Neuchatel. Bulletin. Tome viii, 8vo pamph.

PUBLISHERS. American Literary Gazette. American Journal of Numismatics. Book Buyer. Bowdoin Scientific Review. Christian World. Cosmos. Eclectic.

Essex Banner. Gardener's Monthly. Gloucester Telegraph. Haverhill Gazette. Historical Magazine. Land and Water. Lawrence American. Lynn Reporter. Mason's Monthly Coin and Stamp Collector's Magazine. Medical and Surgical Reporter. Nation. Naturalist's Note Book. Nature. Pavilion. Peabody Press. Quaritch's Catalogue. Sailors' Magazine and Seamen's Friend.

The PRESIDENT called attention to a portrait of William Orne of Salem (a reversionary gift from the late President of the Institute, D. A. White). This portrait was given by Judge White, some years since, to Mrs. Theresa Norris, wife of Charles Norris of Exeter, and daughter of Dr. Joseph and Theresa (Emery) Orne of Salem, on condition that it should ultimately come into the possession of the Institute. This lady died at Exeter, N. H., January 1, 1870, at the age of eighty-seven years; and the portrait has accordingly been sent to the place of destination, and is a valuable contribution to the collection of historical portraits.

William Orne was a successful and distinguished merchant of Salem during the close of the last and the beginning of the present century, and was eminent for his integrity and attention to business. His numerous virtues, his liberal hospitality, his thousand acts of charity, his ardent attachment to his family and friends, secured to him the affection and veneration of his family and the esteem and respect of his fellow citizens.

His contemporaries were William Gray, E. Hasket Derby, George Crowninshield, Joseph Peabody, and others, who were the merchant princes of that day, when Salem commerce was in the ascendancy.

He was born Feb. 4, 1751, and died Oct. 14, 1815. His wife was Abigail, daughter of Nathaniel Ropes; she died May 20, 1813. Their children were William Putnam, died unmarried. George died in infancy. Eliza married, 1st, William Wetmore, Esq.; 2d, Hon. D. A. White; and had a son, Rev. W. O. White, who is a settled clergyman in Keene, N. H. Samuel lived in Springfield, died leaving issue. Charles Henry died in 1814, without issue. Joseph died Sept. 1, 1818; married Sarah F. Ropes, who is now living in the old homestead on Essex street.

The name of Orne has been a familiar one in our annals from the earliest settlement. In the records of the First Church the first baptism recorded was Recompense, dau. of John Horn, bapt. 25, 10, 1636 (name variously spelt). This John Orne died at an advanced age, in 1684. He probably came to Salem in 1630, in the fleet with Winthrop, but may have been here earlier; a freeman 18 May, 1651; "was deacon," and Bentley says, "in 1680 required the assistance of a colleague, as he had been in that office above fifty years." His second son, Symonds, was the ancestor of the Marblehead family, of whom was Hon. Col. Azor Orne, who was a leading and prominent citizen

and died June 6, 1796. Jonathan H. Orne of Marblehead, who has taken an active part in the temperance movement, is also of this family.

His third son, Joseph Orne, married Anna Tomson, and had Joseph, who died without issue. Timothy married Lois Pickering; Anna the wife of John Cabot. Josiah married Sarah Ingersoll; and Mary, wife of Joseph Grafton.

Timothy was the father of Timothy, who died July 14, 1767, a distinguished and successful merchant.

Josiah Orne was the father of Jonathan Orne, who died January 2, 1774, aged 51, and grandfather of Dr. Joseph Orne, who deceased in 1786 (a good physician and a man distinguished for his attainments in literature and science), and of William Orne, the subject of the present notice.

Remarks were then made by the Secretary, Mr. JOHN ROBINSON, upon some manuscript books that had been given to the Institute by Mr. William A. Lander, and jottings were read from them. They were a diary, principally of maritime events that occurred in and about Salem during the war of 1812-15, and consequently contain a large amount of valuable, as well as entertaining, details of our history during that time.

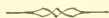
Dr. PACKARD gave an account of a recent trip to Key West and the Tortugas, Florida, describing in general terms the marine fauna, comparing it with that of New England and the Arctic Ocean. He alluded to the poisonous nature of corals, especially of the madrepores, stating that his hands after handling them for a few hours became very sore, much swollen, with considerable local fever; this state of things lasting for several days. The application of glycerine was made with good results. The living coral should be gathered with the hands protected by gloves or mittens, or anointed with glycerine or grease. The poisoning was caused by the poisonous microscopic darts contained within the lasso cells of the coral polyps. The "Pepper Coral," or *Millepora*, was still more distressing in its poisonous qualities and should never be handled unless the hands are thoroughly protected.

He also described the effects on marine life of an intensely cold period on Dec. 24, 25, 1856, when the thermometer went as low as 44°, very unusual for the latitude of Key West. As described to him by several gentlemen at Key West, multitudes of fish were killed and cast ashore. On Dec. 25, 1868, there was another frost, ice was found and quantities of fish was strewn along the beaches. He compared such a wide spread desolation among the marine animals of the

Florida reefs, during such a period of intense cold for a tropical climate (where the mean of winter temperature is 60°), to the death of fishes and other marine animals by local earthquakes and volcanic eruptions, and thought a much greater devastation was wrought by the former cause.

He was accompanied by Prof. H. H. Goodell of the State Agricultural College, and with his aid had made very large collections, especially of crustaceans, worms, and corals. While at Ft. Jefferson they had enjoyed the hospitality of Colonel Charles Hamilton, during the war in command of the Florida coast, who had done much for the success of the trip; to Colonel Gibson, U. S. A., Commandant of the Fort, and to many of the officers and men they were much indebted for various specimens and the use of boats and aid in dredging, &c. While at Key West they were under constant obligations to M. A. Allen, Esq., for aid in furtherance of their explorations; so that a large and valuable collection was made in departments in which the Museum of the Peabody Academy had been hitherto sadly deficient.

Dr. Packard's remarks elicited several interesting queries, after which, Mr. C. H. HIGBEE being called upon by the Chair, alluded briefly to the subject of horticulture, and suggested the propriety of taking into consideration the expediency of having the rooms opened at stated intervals for the exhibition of fruits, flowers, and vegetables, as was the practice some years since, during the coming season, and the necessity of making early arrangements for the same, if deemed advisable. Many new varieties, especially of flowers, have been recently introduced into our gardens, and with a corresponding effort displays can be made that would compare favorably if not surpassing those of former years. The horticultural department, the past few years, has been in a quiescent condition; he perceived an awakening interest in its behalf and hoped that exhibitions now contemplated would be held at least monthly during the season, commencing with that of the rose and strawberry in the latter part of June. He then exhibited some crocuses, and a coliseum ivy growing in combination self-watering pots, and described the construction of these pots which were invented by Benj. W. Putnam of Jamaica Plains, and are well adapted for growing bulbous and other plants that require much water.



REGULAR MEETING, MONDAY, MARCH 21, 1870.

The President in the chair.

The Secretary reported the following correspondence.

Acad. Wissenschaften, Munehen, Feb. 18; Charles H. Bell, Exeter, N. H., March 8; W. B. Brown, Marblehead, March 18; Boston Public Library, Boston, March 10;

H. J. Cross, Salem, March 19; J. H. Emerton, Albany, March 11; J. J. H. Gregory, Marblehead, March 11; B. H. Hall, Troy, N. Y., March 7; Willinger Hoben, Wurttemberg, Nov. 1, 1869; N. A. Horton, Salem, March 17; Moses How, Haverhill, March 16; John P. Jones, Keetoesville, Mo., March 1; Naturforschende Gesellschaft, Emden, Dec. 24, 1869; William Prescott, Concord, N. H., March 17; Moses W. Putnam, Haverhill, March 17; A. H. Quint, New Bedford, March 15, 19; T. A. Tellkamp, New York, March 14; J. Linton Waters, Chicago, Ill., March 3; Chas. A. Wood, Hudson, N. Y., Feb. 24.

The Librarian reported the following additions to the Library.

By Donation.

BARLOW, JOHN. Report on the Invertebrata of Massachusetts. 1 vol. 8vo, Boston, 1870.

BUTLER, BENJ. F., M. C. Speech of Hon. W. Lawrence in U. S. H. R., March 5, 1870, on "Admission of Georgia." 8vo pamph.

CHASE, GEORGE C. Friends' Review, 33 numbers.

CROSBY, ALPHEUS. Memorial of the Class of 1827, Dartmouth College, by J. F. Worcester, 8vo pamph., Hanover, 1869. Memorial of College Life, by A. Crosby. 8vo pamph., Hanover, 1869-70.

HANAFORD, J. H., of Reading. Miscellaneous pamphlets, 59.

HANSON, J. H. Life and Correspondence of John Paul Jones. 1 vol. 8vo, New York, 1820.

KIMBALL, JAMES. Proceedings of the Grand Royal Arch Chapter of Massachusetts. 8vo pamph., Boston, 1870. Godey's Lady's Book, 9 numbers. Peterson's Ladies National Magazine, 10 numbers.

LINCOLN, SOLOMON, Hingham. Hill's Meteorological Register, 1 vol. 8vo, Plymouth, 1869.

PALMER, JOHN, of Detroit, Mich. Thirteenth Annual Report of the Board of Control of the State Reform School of Michigan, 8vo pamph., Lansing, 1869.

ROBINSON, JOHN. Journal of the North-China Branch of the Royal Asiatic Society, 1859, 1864, 2 pamphlets, 8vo, Shanghai. Report of the Council of the North-China Branch, for 1864, 8vo pamph.

STEARNS, R. E. C. First, Second, Third and Fourth Annual Reports of the Board of State Harbor Commissioners, 4 pamphlets, 8vo, San Francisco, 1864-69.

UPHAM, CHARLES W. General Report of the Commissioners of Public Works for 1867, 8vo pamph., Ottawa, 1868.

WATERS, J. LINTON, of Chicago. Fifteenth Annual Report of the Board of Education, 1 vol. 8vo, Chicago, 1869. Sixth and Eighth Annual Reports of the Board of Public Works, 8vo pamphlets, 1868-9. Alleghany Observatory Attached to the Chair of Astronomy and Physics of the Western University of Pennsylvania, 8vo pamph.

WEINLAND, D. F. Beschreibung und Abbildung von drei neuen Sauriern, 4to pamph., Frankfurt, a-M., 1832.

By Exchange.

BOSTON PUBLIC LIBRARY. Catalogue of the Books in the Prince Library, 8vo pamph., Boston, 1870.

BOSTON SOCIETY OF NATURAL HISTORY. Proceedings, vol. xiii, sig. 14, March, 1870, 8vo pamph.

IOWA STATE HIST. SOCIETY. Annals of Iowa for Jan., 1870, 8vo pamph.

L'ACADÉMIE IMPERIALE DES SCIENCES, BELLES-LETTRES ET ARTS DE BORDEAUX. Actes de 3e Serie. Année, 1868, 3me Trimestre, 8vo pamph., Paris, 1868.

NATIONAL ASSOCIATION OF WOOL MANUFACTURERS. Bulletin of, vol. 1, No. 1, January, 1870, 8vo pamph.

NATURFORSCHENDE GESELLSCHAFT in Emden. Vierundfunzigster Jahresbericht der Naturforschenden Gesellschaft in Emden, 8vo pamph, 1868-9. Das Gesetz der Winde abgeleitet aus dem Auftreten derselben über Nordwest-Europa. Von Dr. M. A. F. Prestel, 4to pamph., Emden, 1869.

NEW YORK LYCEUM OF NATURAL HISTORY. Annals for March, 1870, 8vo pamph.

NOVA SCOTIA INSTITUTE OF NATURAL SCIENCE. Proceedings and Transactions, vol. ii, part 3. 1868-69. 8vo pamph.

WISCONSIN STATE HISTORICAL SOCIETY. Annual Address before Wisconsin State Hist. Society, by Hon. M. M. Strong, 8vo pamph., Madison, 1870.

ZOOLOGISCHEN GESELLSCHAFT. Der Zoologische Garten. Zeitschrift Beobachtung, Pflege und Zucht der Thiere, Jahrg. x. Nos. 7-12. 8vo pamph., Frankfurt, a.-M., 1869.

PUBLISHERS. American Journal of Numismatics. American Journal of Science and Arts. American Literary Gazette. Canadian Naturalist. Cosmos. Essex Banner. Gloucester Telegraph. Haverhill Gazette. Historical Magazine. Journal de Conchyliologie. Lawrence American. L'Investigateur. Lynn Reporter. Medical and Surgical Reporter. Monthly Record. Nation. Nature. Peabody Press. Sotheran's Catalogue.

The Superintendent reported the following Donations to the Museums of the Institute and Academy.

SAMUEL CARLEN, Salem. Great Horned Owl shot in Salem.

WESLEY CLARK, Panama. Scyllarius (a crustacean), from fifteen fathoms; Bay of Panama.

HENRY EDWARDS, San Francisco. Large collection of Insects from California.

N. L. NEWCOMB, Salem. Parasites from *Larus marinus*.

M. C. MILLER, U. S. A. Insects from Fort Reynolds, Colorado Terr.

GEORGE A. PERKINS, Salem. Parasites from Human Subjects.

S. H. SCUDDER, Boston. Insects from Florida.

Major WILLIAM STONE, U. S. A. Insects from Aiken, S. C.

Mr. W. P. UPHAM gave a very interesting account of the original laying out of Salem, pointing out on a map, which he had constructed for the occasion, the places where several of the old Planters built their houses. It appears probable that the early pioneers settled in different parts of the town. The Planter's Marsh was pointed out on Bridge street, and also the Potter's Field in the same vicinity. Mr. Upham also showed very satisfactorily that the house now owned and occupied by G. P. Farrington, on the corner of North and Essex streets, was owned and occupied by Roger Williams. It was afterwards sold to Jonathan Corwin, and until a few years since has been kept in that family. Such being the case, another interesting reminiscence is connected with this old historic mansion. [See page 33.]

Remarks were made by Messrs. JAMES KIMBALL, GEORGE D. PHIPPS, A. C. GOODELL, Jr., and others, alluding to these investigations and their value in elucidating our early history.

Hon. N. E. ATWOOD of Provincetown, a member of the State Senate, was present, and by invitation from the Chair presented some remarks on the habits of several of our marketable fishes, with especial reference to their respective abundance or scarcity in our markets.

He stated that in reference to the petitions sent to the Legislature remonstrating against the over-fishing in our bays, he did not agree with the facts set forth by them, and that in his opinion the different species of fishes decrease and increase without regard to the methods practised for their capture, citing as instances the haddock which had steadily increased, and the halibut which had decreased. In the case of the haddock he considered it probable that the troll took not only the haddock but a great number of fish which fed upon their spawn, thereby giving the haddock greater chances to increase. He also spoke of the change in the habits of some of our fishes and the methods of capturing them. In regard to the mackerel, the former method used in catching them was by dragging hooks on lines twenty fathoms long and constantly raising and lowering them; now they are caught at the surface with bait, large quantities of which are strewn alongside to attract them. Formerly all the cod on the Banks of Newfoundland were caught on board of the vessels while lying at anchor, each man using two lines; when the fish were abundant all the men would fish, but usually not more than half of the crew; at times, when no fish could be taken, all the lines but one would be drawn in, and they would begin to be taken abundantly; but let two or more begin to drop their lines, and not an individual would be taken; while, should all the lines but one be again taken in the captures would once more be frequent. This suggested the idea of carrying small boats with them so that each man could fish apart from the others, and in this they met with perfect success.

Votes of thanks were passed to Messrs. Upham and Atwood for their interesting communications.

Charles H. Miller of Salem, was elected a resident member.

Mr. F. W. PUTNAM read a communication in relation to Capt. C. F. Hall's third expedition to the Arctic Regions, expressing the opinion that the proposed voyage and sledge journeys, if undertaken upon a proper and extended basis, would prove of vast importance in obtaining the solution of several scientific problems and establishing beyond doubt many important points relating to the geography of these regions;—and concluding with a series of resolutions; which were adopted.

BULLETIN

OF THE

ESSEX INSTITUTE.

VOL. 2.	SALEM, MASS., APRIL, 1870.	No. 4.
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One Dollar a Year in Advance. 10 Cents a Single Copy.

FIRST HOUSES IN SALEM.

BY W. P. UPHAM.

APPENDIX.

[Concluded from page 39.]

WE learn from the Commoners Records that the original occupants of "the Potter's field," were William Vincent (or Vinson) and the widow Isabel Babson, both of whom removed about the year 1642, to Gloucester. This William Vincent is said by Babson, in his History of Gloucester, to have been "a pot-maker," or potter. We also find, in the "Waste Book" of the County Court Records, that Mr. William Pester of Salem, was presented for certain misdemeanors "at the Potter's house," Jan. 31, 1641. Mr. Pester acknowledged that he was "*at the Potter's house*," and says in defence, "I was invited by Pride and wife; and John Stone and his wife, and was at Stone's house, from whence we were fetched to *ye Potter's*." [John] Pride testifies that Pester "was invited by *Vincen*." "Goody Hardy" also testifies that "*Wm. Vincen* and [Hardy] weare gone out of the house," and that "this was about the second day of November, miscalled

Alhollantyde." Joseph Young also was a witness in this case. Thus the locality where this affair occurred is identified as being the "Potter's field," where Wm. Vincent, the potter, lived, by the names of the persons mentioned as concerned in it. John Stone was the next neighbor, and lived at the ferry. Joseph Young lived on the other side of "the Potter's lane," and "Goody Hardy," was perhaps living with, or near, the next neighbor, Gervais Garford, for she afterwards purchased of him a house and land in Beverly.

The traces of Vincent's potter's oven may have remained there for a long time, and have been mistaken for the ruins of a brick monument. This is all that the records tell us as to the first occupants of house-lots in that vicinity.

We now come to the Planters Marsh itself, which consisted of about twenty-five acres, being low ground, part upland and part marsh, and was bounded by the ferry lane (now Bridge street) on the west, and by the river, or cove, on the east, and extending from "the Potter's field" on the south, nearly to where the bridge is now. Seven acres of this was conveyed by Peter Palfrey to his son-in-law, Samuel Pickman, and by him to Wm. Browne, in 1662. This appears, as nearly as we can judge from the imperfect description in the deeds, to have been on the westerly side of the field. The easterly part of the field, next the water, seems to have been divided into three parts of about six acres each, the northern one owned by John Woodbury, and afterwards by George Emery, and the middle one by John Balch, and afterwards by Walter Price; the southern one was owned by Francis Skerry, and perhaps had been purchased by him of Roger Conant. The whole field came finally into the possession of Wm. Burnett Brown, who, in 1766, con-

veyed it, together with "the Potter's field," to Dudley Woodbridge. No claim was ever made for any cottage right as appurtenant to this field, as there undoubtedly would have been if there had been any house on it before 1661.

In a lawsuit, in 1680, concerning the six acres in Planters Marsh, which had been owned by John Balch, "lying betwixt Francis Skerry on the south side and Mr. George Emery on the north side," Capt. Wm. Dixie, aged seventy years, testifies that "above forty years past of my own knowledge, John Balch, Sen., had in his possession about five or six acres of land in ye marsh called ye planter's marsh, near the north ferry in Salem." Francis Skerry, aged about seventy-four years, testifies that thirty-five years before, it was known to be John Balch's; and Humphrey Woodbury, aged about seventy years, testifies that "about fifty years past, of my knowledge, John Balch, Sen., had an interest in ye marsh called ye ould planter's marsh, near ye north ferry in Salem, with ye other old planters." It is a significant fact that among all the papers in this suit there is nothing to indicate that any of the Old Planters ever lived near there.

It seems that the town claimed certain rights in the Planters Marsh. An order was passed, Nov. 26, 1638, "that the meadow that is in common amongst some of our brethren, Mr. Conant and others, shall be fenced in the first day of April, and left common again the last of September every year." In the Index of the Book of Grants is written by Jeffry Massey "ould planter's marshe for fencing and opening is in the old booke anno 1638." April 15, 1639, there was "granted for the year to Mr. Fisk and Mr. Fogg the hay grass of the salt marsh meadow at the side of the Old Planter's fields." In 1653 the town granted to George Emery "the herbage of that

parcel of land which was John Woodbury's in the old planter's marsh, and all right of commonage the town might have claimed, to him and his heirs forever;" and, in 1658, to Wm. Hathorne "the town's right and privileges in the planter's marsh," and he gave a deed of release to Francis Skerry in 1659, and to Walter Price in 1666. This interest which the town disposed of, may have been acquired when that peaceful settlement of conflicting rights was made between Endicott and Conant, which gave the name of Salem to the town.

We have thus brought together all that we have been able to learn as to the early history of this locality; and we think these facts all tend to show that the Old Planters did not build their first houses there, but, probably before the arrival of Endicott, had made use, in common, of the marsh land there, as a convenient place for readily obtaining salt hay, at that time of great importance to them; the town reserving the right to use it also for that purpose, at certain seasons of the year. At about the time when Roger Conant removed to Beverly, they seem to have divided it among themselves, subject to the rights of the town. We are inclined to think that the land in that vicinity was not appropriated for house-lots till after Beverly and Ipswich were settled; that is, about the year 1634, or 1635.

The manner in which the house-lots in the central part of the town were originally laid out, seems to indicate that the earliest settlement was made in the vicinity of Elm street and Washington street upon the South River. Between these streets the lots were small, irregular, and not in conformity with the plan upon which the rest of the town was laid out. East of there, all along the South River to the Neck, house-lots were laid out running back from the river; and along the North River, west of

North street were larger house-lots, also running back from that river. Essex street was probably a way that came gradually into use along the ends of these lots; and, as they were all of the same depth from the river, this street acquired, and has retained the same curves that the rivers originally had.

Between Elm street and Central street was the ancient burying ground; and on the corner of Elm and Essex streets lived Wm. Allen, one of the old Planters.

We do not think, however, that the Old Planters all lived close together, for we find Wm. Traske locating himself at the head of the North River, Richard Norman at the foot of the rocky hill since called by his name; Thomas Gardner near Dean street, and John Woodbury, Roger Conant and Peter Palfrey on the north side of Essex, and between Washington and St. Peter streets.

If we may indulge in conjecture as to the place of the first landing, all the probabilities seem to point to the cove which then existed at the foot of Elm street. Nothing could have been more inviting to those early colonists, after leaving the bleak and rocky Cape Ann, than this inlet of the sea, protected from the main harbor by Jeggles Island, and beautiful as it must then have appeared surrounded by pine groves and gently sloping shores, plentifully provided with "divers good springs hard by the sea side."

Gov. Winthrop, describing his arrival here in 1630, says, June 12th, we "came to an anchor a little within the islands." June 14th, "in the morning we weighed anchor, and the wind being against us, and the channel so narrow as we could not well turn in, we warped in our ship and came to an anchor in the inward harbour." And in a sketch which he made at the time of the shore, while Collins Cove and Winter Island are hardly distinguishable, the South River is fully delineated.

ROGER CONANT'S HOUSE.

It would be a very interesting item of local history if we could know where the house of Roger Conant stood, for, according to his own statement, it was the first house erected in Salem. The town records mention, in 1639, "Mr. Conant's house at Cat Cove." This was probably only a small house used for fishing purposes, to which pursuit, the Neck and Winter Island were devoted during the first century, lots being first granted there in 1636; and many of the more wealthy inhabitants had besides their houses in town a "fishing house" at the Neck or Island.

The only other reference to a house belonging to Roger Conant, in Salem, is a vote of the town Aug. 21, 1637, that "Mr. Conant's house situated next unto Mr. John Fisk, with half acre of ground," should be bought for the benefit of Wm. Plase, a blacksmith, and it seems to have been intended that it should belong to his heirs, or assigns, after his decease. The purchase appears to have been completed, for receipts for the sum of 10£ 16s, 8d., paid to Roger Conant soon after, are entered on the record. Wm. Plase died April 15, 1646, and his estate was settled by Thomas Weeks, who presented to the town a claim for expenses and for care of the deceased during his sickness. It is possible, if not probable, that the house bought of Roger Conant for Wm. Plase came into the possession of Thomas Weeks in accordance with the agreement of the town.

We find that Thomas Weeks owned, before 1655, a house and half an acre of land on the north side of Essex street, opposite where the Market, or Derby square, is now. The site is at present occupied by the dwelling house of Hon. Richard S. Rogers. Here, we believe,

stood the house of Roger Conant, built in 1626; and this belief is confirmed by the evidence that two others of the Old Planters, John Woodbury and Peter Palfrey, lived close by; and also by the probability that the house, which is mentioned as next adjoining, where John Fisk lived, who was then acting as minister of the church, would be in the vicinity of the meeting house.

THE HOUSE OF ROGER WILLIAMS, 1635.

On the western corner of North and Essex streets stands the old house well known as the Witch House. We have already given in a former article (*Historical Collections* Vol. VIII, p. 257) the history of this house so far as it was then known, showing that it was originally owned by Roger Williams, in 1635-6, and afterwards by Captain Richard Davenport, whose administrators sold it to Jonathan Corwin, in 1675, and that it was then thoroughly repaired by him, and was again altered in 1746, a new roof being built and the back part of the house raised to two stories and the porch taken away.

Since that article was written we have obtained, through the kindness of Mr. E. M. Barton, Assistant Librarian of the Antiquarian Society of Worcester, a complete copy of the original contract between Jonathan Corwin and Daniel Andrew, in 1675, as to the repairs to be made upon this house, which we here present.

“Articles and Covenants made, agreed upon, and confirmed between Mr. Jonathan Corwin, of Salem, merchant, and Daniel Andrews of ———, of the other part concerning a parcell of worke as followeth, viz.: Imprimis, the said parcell of worke is to be bestowed in filling, plaistering and finishing a certaine dwelling house bought by the said owner of Capt. Nath’l Davenport of Boston, and is situate in Salem aforesaid, towards the west end of the towne be-

tweene the houses of Rich. Sibley to the west and Deliverance Parkman on the east; and is to be performed according to these following directions, viz.

1. The said Daniel Andrewes is to dig and build a cellar as large as the easterly room of said house will afford (and in the said room according to the breadthe and lengthe of it) not exceeding six foot in height; and to underpin the porch and the remaining part of the house not exceeding three foot in height; also to underpin the kitchen on the north side of the house, not exceeding one foot; the said kitchen being 20 foot long and 18 foot wide; and to make steps with stones into the cellar in two places belonging to the cellar, together with stone steps up into the porch.
2. For the chimneys he is to take down the chimneys which are now standing, and to take and make up of the bricks that are now in the chimneys, and the stones that are in the leanto cellar that now is, and to rebuild the said chimneys with five fire places, viz., two below and two in the chambers and one in the garret; also to build one chimney in the kitchen, with ovens and a furnace, not exceeding five feet above the top of the house.
3. He is to set the jambs of the two chamber chimneys and of the easternmost room below with Dutch tiles, the said owner finding the tiles; also to lay all the hearths belonging to the said house and to point the cellar and underpinning of sd. house and so much of the 3 hearths as are to be laid with Dutch tiles, the said owner is to find them.
4. As for lathing and plaistering he is to lath and siele the 4 rooms of the house betwixt the joists overhead and to plaister the sides of the house with a coat of lime and haire upon the clay; also to fill the gable ends of the house with bricks and to plaister them with clay.
5. To lath and plaister the partitions of the house with clay and lime, and to fill, lath, and plaister with bricks and clay the porch and porch chamber and to plaister them with lime and hair besides; and to siele and lath them overhead with lime; also to fill lath and plaister the kitchen up to the wall plate on every side.
6. The said Daniel Andrews is to find lime, bricks, clay, stone, haire, together with labourers and workmen to help him, and generally all materials for the effecting and carrying out of the aforesaid worke, excepte laths and nailes.
7. The whole work before mentioned is to be done finished and performed att or before the last day of August next following, provided the said Daniel or any that worke with him, be not lett or hindered for want of the carpenter worke.
8. Lastly, in consideration of all the aforesaid worke, so finished and accomplished as is aforesaid, the aforesaid owner is to pay or cause to be paid unto the said workeman, the summe of fifty pounds in money current in New England, to be paid at or before the finishing of the said worke. And for the true performance of the premises, we bind ourselves each to other,

our heyres, executors and administrators, firmly by these presents, as witnesse our hands, this nineteenth day of February, Anno Domini 1674-5.

JONATHAN CORWIN.
DANIEL ANDREWE."

Thus it appears that this house was so old in 1675 that the chimneys had to be taken down and new ones built. Previous to that time it seems not to have had any plastering or ceilings, the "sides of the house" only being filled with brick and covered or "daubed" with clay.

A picture of this house, as it was before the second alteration was made in 1746, is in the possession of the Institute. It shows the underpinning "not exceeding three feet in height," and the porch with the stone steps up into it. The side gables were perhaps an addition at some intermediate period.

By the favor of Dr. G. P. Farrington, who now owns the house, and Mr. W. T. Servey who occupies the upper part of it, we have been enabled to obtain the following minutes of the present appearance of the interior. The western side of the house still retains, behind the plastering, the bricks with which it was originally filled, covered over with clay. The original rooms measure nearly as follows: eastern room below $21\frac{1}{2}$ by 18 feet; room over it $21\frac{1}{2}$ by 20 feet; western room below $16\frac{1}{2}$ by 18 feet; room over it $16\frac{1}{2}$ by 20 feet. The chimney is about 12 by 8 feet. In each of the eastern rooms three, and in the western rooms two, stout hewn timbers of solid oak cross the ceiling. The line of the old roof is now plainly visible on the eastern face of the chimney in the garret, and shows that the pitch of the roof was very steep. The only part of the outside of the house which retains its original appearance is the western part of the front towards Essex street with its projecting upper story.

The evidence that this was the house of Roger Williams will be seen in the article referred to at the beginning of this notice; but since that was written we have found two additional items of proof. In a deed of land on the east side of North street, in 1671, from the heirs of Samuel Sharpe to John Turner, North street is described as "formerly called Williamses Lane." After Jonathan Corwin bought the house, the same street was called "Corwin's Lane," or as the name was afterwards spelt, "Curwen's Lane." Again it appears upon the County Court Records that, in 1650, the Grand Jury presented as being defective the "way between Roger Morey and Mr. Williams his house that was." Roger Morey, lived on the western corner of Essex and Dean streets.

It may be well here to briefly recapitulate the history of this house. In a letter written from Providence in 1670, by Roger Williams to Major Mason (Mass. Hist. Coll., Vol. 1, p. 276), he says "when I was unkindly and unchristianly, as I believe, driven from my house and land and wife and children (in the midst of a New England winter, now about 35 years past) at Salem, that ever honoured Governour Mr. Winthrop privately wrote to me to steer my course to the Nahigonset Bay and Indians for many high and heavenly and publike ends, encouraging me from the freenes of the place from any English claims or patents. I took his prudent motion as an hint and voice from God, and waving all other thoughts and motions, I steered my course* from Salem (though in winter snow which I feel yet) unto these parts, wherein I may say *Peniel*, that is I have seene the face of God."

He also wrote in a letter to Gov. Winthrop, in 1638,

*The compass which he used to "steer his course" through the pathless wilderness, is still preserved at Providence.

that he had "made over his house" at Salem, to Thomas Mayhew, and afterwards John Jolliffe, as security for a debt to Matthew Craddock. The proof that this house we have described was the one he referred to, is as follows. First, the town records, in 1640, mention a house in this same locality as the house of Mr. Williams. The title (Mr.) shows this must have meant Roger Williams. Secondly, that part of Essex street is mentioned in the Court records, in 1650, as "the way between Roger Morey and Mr. Williams his house that was." Thirdly, North street was described, in 1671, as "formerly called Williamses Lane." Fourthly, the deeds of land next west in 1662 and 1665, show that this was then owned by Capt. Richard Davenport; and it was conveyed, in 1675, by the administrators of his estate to Jonathan Corwin, being described in the deed as "formerly belonging to Capt. Richard Davenport;" and by the same deed was also conveyed a ten-acre-lot in the Northfield, and this ten-acre-lot is described in a deed of adjoining land, in 1650, as "Mr. Williams' lot." This, by the way, shows conclusively that the statement that this house was built by Capt. George Corwin, in 1642, and given by him to his son, Jonathan Corwin, must be a mistake. We have not been able to find in the records any evidence that Capt. George Corwin ever lived there or had any interest in that estate.

Finally, in 1714, when every one who owned a house which was built before 1660, was allowed by a law of the Colony what was called a "Cottage right," and also a "right for 1702," by virtue of a town vote that year allowing a right for every house then standing, each of these rights was allowed to "Jonathan Corwin, Esq., for his house and Mr. Williams Cottage right."

The following is the law of the Colony passed May 30,

1660. "It is ordered, that hereafter no cottage or dwelling place shall be admitted to the privilege of commonage for wood, timber, and herbage, or any other the privileges that lie in common in any town or peculiar, but such as already are in being or hereafter shall be erected by the consent of the town."

These facts bring us to a conclusion that hardly admits of a doubt, that this house, which has so long been an object of attraction for visitors from all parts of the world, on account of its connection with the Witchcraft tragedy of 1692, and as the residence of one of the judges, must now acquire an added interest as having been once the home of Roger Williams.

Here then, within these very walls, lived, two hundred and thirty-five years ago, that remarkable and truly heroic man, who in his devotion to the principle of free conscience, and liberty of religious belief untrammelled by civil power, penetrated in midwinter the depths of an unknown wilderness, to seek a new home: a home which he could only find among savages, whose respect for the benevolence and truthfulness of his character made them then and ever afterwards his constant friends. From this spacious and pleasant mansion he fled through the deep snows of a New England forest, leaving his wife and young children to the care of Providence, whose silent "voice," speaking through the conscience, was his only support and guide. The State which he founded may ever look back with a just pride upon the history of Roger Williams.

REGULAR MEETING, MONDAY, APRIL 4, 1870.

The President in the chair.

In the absence of the Secretary, Mr. Charles H. Higbee was requested to act. Records of preceding meeting were read.

The following correspondence was announced.

J. F. A. Adams, Pittsfield, Mass., March 1; Hon. B. F. Butler, Washington, D. C., March 25; Henry J. Cross, Salem, March 19; Det Kongelige Danske, Copenhagen, Dec. 31; E. Deyrolle fils, Paris, Jan. 27; Wm. Gossip, Institute Nat. Science, Halifax, March 26; E. E. Chever, Chicago, March 12; B. A. Gould, Cambridge, Feb. 18. March 21, 24 and 29; J. C. Holmes, Detroit, March 23; Public Library, Boston, March 24; J. F. LeBaron, Boston, March 24; Mary Mann, Cambridge, March 4, 21 and 26; Charles H. Miller, Salem, March 26; Moravian Hist. Society, Nazareth, Pa., March 21; H. Roundy, Beverly, March 31; Henry F. Shepard, Boston, March 21; Smithsonian Institute, Washington, March 18; C. M. Tracy, Lynn, March 31; Wm. H. Woods, Rockport, March 25; T. Spencer, Lincoln, Eng., March 9.

The Librarian Reported the following additions.

By Donation.

BAKER, NATHANIEL B. Reports of N. B. Baker, Adjutant and Inspector General and A. Q. M. G. of the State of Iowa, to Hon. S. Merrill, Svo pamph., Des Moines, 1870.

BUTLER, BENJ. F., M. C. Speeches of Hon. B. F. Butler in U. S. House of Representatives, March, 1870, on "Admission of Georgia," Svo pamph.

LEE, JOHN C. Commercial Bulletin for March, 1870.

LEWIS, WINSLOW. America, Past, Present, and Retrospective; a Lecture by E. R. Humphreys, 1 vol. 12mo. Newport, 1869.

STONE, B. W. Catalogue of the University of Virginia, 1869-70, Svo pamph.

TREASURY DEPARTMENT, Washington, D. C. Report of the Secretary of the Treasury on the State of the Finances for 1869, 1 vol. Svo, Washington, 1869.

WATERS, E. STANLEY, of Chicago. Diocese of Illinois. Journal of the Thirty-Second Annual Convention, 1869, Svo pamph.

WATERS, J. LINTON, of Chicago. Report to the Directors of the Illinois Central Railroad Company for 1869, 4to pamph.

By Exchange.

PUBLISHERS. American Journal of Numismatics. American Literary Gazette. Book Buyer. Christian World. Cosmos. Eclectic. Essex Banner. Gardener's Monthly. Gloucester Telegraph. Haverhill Gazette. Land and Water. Lawrence American. Little Giant. Lynn Reporter. Medical and Surgical Reporter. Nation. Nature. Pavilion. Peabody Press. Sotheran's Catalogue.

The Superintendent reported the following donations to the Museums of the Institute and the Academy.

JOSHUA P. HASKELL, Marblehead. Twenty-three unfinished Arrowheads in all stages, from Marblehead.

CHARLES HOWARD, Salem. A piece of "What-cheer" Rock, from Providence.

ROBERT HOWELL, Nichols, Tioga Co., N. Y. A box of Indian Relics, from Tioga Co., N. Y.

- G. M. MILLER, U. S. A. Reptiles, from Fort Reynolds, Colorado Terr.
 E. S. MORSE, Salem. Arrowhead, from Swampscott Beach.
 R. L. NEWCOMB, Salem. Specimens of Cedar and Canary Birds.
 — PHILLIPS, Marblehead. Mollusks and Crustaceans from Marblehead.
 B. A. WEST, Salem. Skull of a four-horned Ram, from Africa.

The CHAIR presented for consideration the following act recently passed by the Legislature, to amend the Charter of the Institute, which, after some explanatory discussion, was unanimously adopted on motion of A. C. Goodell, Jr.

COMMONWEALTH OF MASSACHUSETTS.

In the Year One Thousand Eight Hundred and Seventy.

AN ACT

TO AMEND THE CHARTER OF THE ESSEX INSTITUTE.

Be it enacted by the Senate and House of Representatives, in General Court assembled, and by the authority of the same, as follows:

SECTION 1. The Essex Institute shall have for its objects the advancement of the arts, literature and science, in addition to the objects for which the Essex Historical Society and the Essex County Natural History Society were incorporated.

SECTION 2. The third section of chapter five of the acts of the year eighteen hundred and forty-eight, is hereby repealed.

SECTION 3. This act shall take effect upon its acceptance by said Essex Institute, at a meeting duly held for that purpose.

HOUSE OF REPRESENTATIVES, February 11, 1870.

Passed to be enacted.

HARVEY JEWELL, *Speaker.*

IN SENATE, February 12, 1870.

Passed to be enacted.

H. H. COOLIDGE, *President.*

February 12, 1870.

Approved:

WILLIAM CLAFLIN.

SECRETARY'S DEPARTMENT, Boston, March 20, 1870.

A true copy.

Attest:

OLIVER WARNER,

Secretary of the Commonwealth.

A committee consisting of W. P. Upham, W. Neilson, C. H. Higbee, F. W. Putnam and Caleb Cooke, was appointed to report at the annual meeting such amendments to the by-laws as may be required to conform to the amendatory act of incorporation, now accepted; also to report a list of officers to be presented as candidates for election at the same meeting.

Lincoln F. Brigham of Salem, was elected a resident member.

REGULAR MEETING, THURSDAY, APRIL 21, 1870.

Adjourned from Monday evening, April 18.

President in the chair.

Records of preceding meeting read.

The following correspondence was announced :

N. E. Atwood, Boston, April 20; Howard Challen, Philadelphia, Penn., April 11; A. C. Hamlin, Bangor, Me., Dec. 21; S. Henshaw, Boston, April 18; George J. Loughton, New York, Dec. 20; F. H. Lee, Boston, April 9, 14; Lyceum of Natural History, New York, April 11; Sarah A. Lynde, Stoneham, April 18; Maine Historical Society, Brunswick, Me.; E. Mayard, Cape Town, Dec. 9; Moravian Historical Society, Nazareth, Penn., April 11; New England Historic-Genealogical Society, Boston, April 6; Pennsylvania Historical Society, Philadelphia, Penn., April 8; Public Library, Boston, April 9; Charles Reed, Montpelier, Vt., April 16; Rhode Island Historical Society, Providence, R. I., April 7; A. A. Scott, Saugus Centre, April 19; Henry F. Shepard, Boston, April 18; George D. Smith, Boston, March 15.

The LIBRARIAN, in reporting the following additions, spoke of the generous exchanges that had been received from George H. Moore, Esq., Librarian of the New York Historical Society, which had enabled him to nearly complete the Laws and Resolves of Massachusetts from 1775 to the present time, the series of laws being now complete with the exception of eight leaves, and these, he trusted, would soon be received. He also alluded to other valuable exchanges and donations to the Library.

By Donation.

BARNARD, J. M. The New Guide to the City of York, 1 vol. 8vo. Black's Picturesque Tourist of Scotland, 1 vol. 12mo, Edinburgh, 1841. Statistical Almanac, 1843, 1 vol. 18mo. Handbook for Switzerland, 1 vol. 16mo, 1811. Versailles et son Musée Historique, 1 vol. 16mo. Miscellaneous pamphlets, 8.

BENNETT, JAMES. Annual Report of the School Committee of Leominster, 1869-70, 1 vol. 8vo.

BUTLER, BENJ. F., M. C. Monthly Report of the Department of Agriculture for February, 1870. Speeches of Hon. J. S. Witcher and Hon. B. C. Cook, in U. S. H. R., March, 1870, on "The Tariff." Speech of Hon. W. Lawrence, in U. S. H. R., April, 1870, on "National Debt, Taxation, Currency, Labor." Speech of Hon. J. A. Logan, in U. S. H. R., March, 1870, "In Answer to Letter of General W. T. Sherman."

GOODELL, ABNER C., Jr. New Bedford, Cambridge, Portland. Charlestown, Lowell, Providence City and Rhode Island Business Directories, 7 vols. 8vo.

GREEN, SAMUEL A., of Boston. Barnaby Rudge, 15 numbers. Taxable Valuation of Dorchester, 1869, 1 vol. 8vo. Lacroix Elementary Treatise on Arithmetic, 1 vol. 8vo, London, 1823. Miscellaneous pamphlets, 121.

HOLMES, JOHN C. Twenty-fifth Anniversary of the Organization of the First Congregational Church of Detroit, Mich., 8vo pamph., 1870.

HOYT, ALBERT H. Report on Cheap Railway Transportation between Boston and Lake Ontario, 8vo pamph., 1870.

HUGUET-LATOUR, L. A. Report of the State of the Militia of the Dominion of Canada for 1868, 8vo pamph., Ottawa, 1869.

JAMES, THOMAS P. *Journal of a Botanical Excursion in Pennsylvania and New York*, 1807, 12mo pamph., Philadelphia, 1869.

LEAVITT, JOSEPH H. *Journal and Documents of the Valuation Committee*, 1860, 1 vol. 8vo, Boston. *Morse's American Gazetteer*, 1 vol. 8vo, Charlestown, 1804. *Henry of Guise*, 2 vols. 8vo, New York, 1839. *Obnstead's School Philosophy*, 1 vol. 12mo, New Haven, 1844. *Julia*, 1 vol. 12mo, London, 1790. *English and Swedish Dictionary*, 1 vol. 16mo, Leipsic. A large collection of school books.

MCKENZIE, S. S. *Report of the Receipts and Expenditures of Topsfield, 1857-1870*, 14 pamphlets, 8vo.

STICKNEY, MATTHEW A. *Genealogy of the Stickney Family*, 1 vol. 8vo, Salem, 1869.

STONE, HENRY O. *Library of Practical Medicine*, 3 vols. 8vo, 1861-8. *The Excision of Joints*, by R. M. Hodges, 8vo pamph., Boston, 1861. *Medical Communications of Massachusetts Medical Society*, 4 pamphlets, 8vo, Boston, 1867-9.

SUMNER, CHARLES, U. S. Sen. *Monthly Report of the Department of Agriculture from Nov., 1869, to Feb., 1870*, 3 pamphlets, 8vo. *Speech of Hon. H. R. Revels, in U. S. Sen., March, 1870, on "Admission of Georgia,"* 8vo pamph.

WALTON, EBEN N. *City Documents of Salem for 1869-70*, 8vo pamph., Salem, 1870.

WATERS, J. LINTON, of Chicago. *Military History of Oscar Malmberg*, 8vo pamph., Washington, 1870. *The Land Owner for April, 1870*, 4to pamph. *Chicago Tribune's Annual Review of the Trade and Commerce of Chicago for 1869*, 8vo pamph.

By Exchange.

BOSTON SOCIETY OF NATURAL HISTORY. *Proceedings*, vol. xiii. sig. 15.

IOWA STATE HISTORICAL SOCIETY. *Seventh Biennial Report of the Board of Curators for 1869*, 8vo pamph., Des Moines, 1870.

LONG ISLAND HISTORICAL SOCIETY. *Sixth Annual Report of the Board of Directors*, 8vo pamph., Brooklyn, 1869.

NEW ENGLAND HISTORIC-GENEALOGICAL SOCIETY. *The New England Historical and Genealogical Register for April, 1870*.

NEW JERSEY HISTORICAL SOCIETY. *Proceedings*, vol. ii, No. 1. Second Series, 8vo pamph., 1870.

NEW YORK HISTORICAL SOCIETY. *Annotated Constitution, S. N. Y., 1846*, 1 vol. 4to, Albany, 1867. *Revision Documents, 1867-68*, 1 vol. 8vo, Albany, 1868. *Collections of the New York Historical Society, 1868-69*, 2 vols. 8vo, New York. *Proceedings and Debates*, 5 vols. 8vo, Albany, 1868. *Convention Documents*, 5 vols. 8vo, Albany, 1868. *Journal of the Convention, S. N. Y., 1 vol. 8vo, Albany, 1867. Laws and Resolves, 1775-1787. Pamphlets, 8.*

PENNSYLVANIA HISTORICAL SOCIETY. *Correspondence between William Penn and James Logan*, 1 vol. 8vo, Philadelphia, 1870.

PHILADELPHIA ACADEMY OF NATURAL SCIENCES. *Proceedings*, Dec., 1869, 8vo pamph., Philadelphia, 1869.

PUBLISHERS. *American Literary Gazette. Book Buyer. Cosmos. Essex Banner. Fireside Favorite. Gloucester Telegraph. Haverhill Gazette. Journal of the Quekett Microscopical Club. Lawrence American. Little Giant. Lynn Reporter. Medical and Surgical Reporter. Nation. Nature. Peabody Press. Salem Observer.*

BULLETIN

OF THE

ESSEX INSTITUTE.

VOL. 2.

SALEM, MASS., MAY, 1870.

No. 5.

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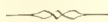
VOCABULARY OF FAMILIAR WORDS USED BY THE INDIANS OF CALIFORNIA.

BY EDWARD E. CHEVER

THE following vocabulary contains some of the familiar words, with their signification, in use among the Indians of California, which Mr. Chever was able to recall after the lapse of several years from the time of his residence among them.

No-to-um, North; Co-win-ne, South; Pue-ne, East; Tāwi-de, West; Tocom, red; Cok-ok-om, white; Cāt-cāt-im, black; Cūt-cūt-im, blue; Pocom, head; Il-lim, hair; Hin-nim, eye; Sumūm, nose; Tcha-wām, mouth; Ma-cher-wim, chin; Mu-sūm, cheek; Bo-nōm, ear; Yim-mim, arm; Piem, foot; Pit-ti-tā-tim, heel; Nan-nam, breast; Kus-kus-se, strong; Ha-nā-nā, handsome; Win-nem, good; Was-sun, bad; Pit-tu, mean; Nim, large; Ne-de-qūn, very large; Tehid-i-ku, small; Te-hid-i-ku-wit-te, very small; Ween, none; Hip-pe-ne, high; Hon-dē, low; Lam-de, far; Lam-de-qūn, very far; Hūm-pū-e-de, outside; Ah-e, five; Su-kūm, smoke; Mū-me, water; Mūm-de, river or pond; Hol-chim, grass; Utim, acorn; Mā-te, bread; Holtim, sturgeon; Mi-em, salmon; Petch-u,

perch ; Läck-läck-em, goose ; Shik-ku, dog ; Tin-cim, cat ; Mia-dim, man ; Killem, woman ; Collem, child ; Hol-pam, village ; Hodis-pam, people ; Yǎ-wǒm, run ; Yo-wis-se, swim ; Hǎ-to-to, fight ; Wǎ-not-te, kill ; Hen-nōp, yell ; Sed-dem, blood ; Kū-tim, meat ; Dōm, antelope ; Ich-āl-im, dry ; Tǎ-dis-se, rain ; Bǎā, salt ; Om, stone ; Ich-on hungry ; Isco-nim, old ; Eppin, afraid ; Ho-ne-eā, angry ; Ich-tu, sick ; Wǎ-no, die ; Tue, sleep ; Cub-bu, alone ; Neh, me ; Min, you ; Hǎ-e-wǎ-na, yes ; Dōh, no ; Yǎl-lem, talk ; Wǎse, stop ; Ho-mār, be still ; Bǎ-e-dim, now ; Tōp-pe, bring ; Meh, give ; Hǎ-leen, much ; Hǎ-kūp-pe, bitter ; Suy-en, sour ; As-sā-ke-mā-ā-nā, know ; A-ke, time ; Ish-ke-teen, live ; Upin-ke-teen, come ; Echōn, go ; Echo-ā-nā-ne, going ; Echo-ā-deān, gone ; Hǎ-mōd-de, where ; Hǎ-mo-ā-na-ne Echon, where are you going ; Hǎ-āwk-we-teen, after ; Him-mā, before ; Hed-em, here ; Hod-ōm, there ; Pōk-ōm, sun ; Pok-om puene, sunrise (Akim-hom-Pokomto-do), noon ; Pōk-om-ti-e-ne, sundown ; Po, night ; Mi-kāwda, friend ; Pǎ-cāl-tim, pay ; Mū-e-dū, deaf ; Hes-e-ā-nā, what ; Tchi-e-de, other ; Yim-me-ā-nā, full ; We-dem-pow, wonderful ; Epte-ka, frightful ; Moōn, shoot ; Ta-wal-im, work ; Lǎ-wǎ-e-kānā, tired ; Be-nik-men-te, wish ; Hōn-bono, forget ; Do-se, bite ; Nǎ-hā-hā, break ; Mip, hold ; Ich-tute, pain ; Pik-e-le, hot ; Cow-im, earth ; A-lā-we, country ; Hū-kūm, chief ; Heum, house ; Lo-le, blanket ; Tchām, wood ; Tāk-kān-im, white man ; Hed-em-a-ke, to-day ; Kǎ-ā-no, yesterday ; Li-ā-da, to-morrow.



REGULAR MEETING, WEDNESDAY, MAY 4, 1870.

The President in the chair. The records of preceding meeting read.

The SECRETARY announced the following correspondence :

From J. S. Armstrong, Cleveland, Ohio, April 25; H. F. Bassett, Waterbury, Conn., April 20; Boston Public Library, April 21; Boston Society Nat. History,

April 21; E. A. Brigham, Lewiston, Me., April 20; Cambridge Museum Comp. Zoology, April 20; G. L. Chandler, Salem, April 29; E. D. Cope, Philadelphia, April 26; H. B. Dawson, Morrisania, New York, April 11; J. W. Foster, Chicago, Ill., April 27; Dr. S. Green, Easton, Pa., April 21; W. J. Hays, New York, April 19; R. C. Ingraham, New Bedford, April 20; Iowa State Hist. Society, April 23; J. Kidder, Philadelphia, April 20; A. Lackey, Haverhill, April 21; Isaac Lea, Philadelphia, April 22; Marburg, Gesellschaft zu Beförderung, Jan.; Massachusetts Hist. Society, April 20; Geo. Metzger, Circleville, Ohio, April 25; E. Michener, Berlin, Conn., April 21; New York Genealogical and Biographical Society, April 21; New York Hist. Society, April 30; New York Lyceum of Natural History, April 25; Peabody Institute, Baltimore, April 28; C. T. Robinson, New York, April 20; Frank Springer, Burlington, Iowa, April 21; C. Stodder, Boston, April 22; U. S. Dep't Interior, April 29.

The LIBRARIAN announced the following additions :

By Donation.

ATWOOD, E. S. Miscellaneous pamphlets, 38.

BUTLER, BENJ. F., M. C. Bennett's Speech in U. S. H. R., April 1, 1870, on "National Defence of the Lakes." Cox's Speech in U. S. H. R., March 28, 1870, on "The Tariff."

COLE, MRS. NANCY D. Account Books, 2 vols. folio. Adams' Lectures on Natural Philosophy, 4 vols. 8vo, London, 1794. Johnson's Dictionary, 1 vol. 8vo, London, 1792. Also, 22 volumes and 63 pamphlets.

COLE, THOMAS, Estate of. Annals of Scientific Discovery, 3 vols. 8vo. Humboldt's Cosmos, 2 vols. 8vo. Dammii Novum Lexicon Græcum, 2 vols. 8vo. Millers's Foot Prints of Creation, 1 vol. 8vo. Also, seventeen volumes of valuable scientific works.

COOK, GEORGE H. Annual Report of the State Geologist of New Jersey for 1869, 8vo pamph., Trenton, 1870.

CURWEN, GEORGE R. Church Almanacs, 1865-1869, 12mo pamph., New York. Memorial of Rev. H. W. Ducachet, D. D., 8vo pamph., Philadelphia, 1867.

DABNEY, Miss E. P. Scriptural Interpreter, 21 Nos. Monthly Journal of American Unitarian Association, 51 Nos.

HOE, R. & Co. The American Enterprise, folio pamph.

HUNTINGTON, GEORGE C. Annual Report of the Secretary to the Governor of the State of Ohio for 1869, 8vo pamph., Columbus, 1870.

LEE, JOHN C. Commercial Bulletin for April, 1870.

MOORE, W. H. Minutes of the General Association of Connecticut, at the Annual Meetings, June, 1867-9, 8vo pamphlets, Hartford.

ROBINSON, JOHN. Boon, Catalogue of Books and pamphlets, 1 vol. 8vo. New York, 1870. Pamphlets, 3.

SALEM, CITY OF. Salem City Documents, 1869-70, 1 vol. 8vo. Salem, 1870.

STICKNEY, Miss HANNAH. Flavel's Works, 2 vols. folio. London, 1701. Life and Character of J. Edwards, 1 vol. 12mo. Boston, 1765. New England Annals, 1 vol. 16mo. Boston, 1736. Also, 9 volumes and 3 pamphlets.

SUMNER, CHARLES, U. S. Sen. Commercial Relations, 1 vol. 8vo. Washington, 1869. Report of Supt of U. S. Coast Survey, 1 vol. 4to. Washington, 1869. Acts and Resolutions of the U. S. Congress, 8vo pamph., Washington, 1869. Sherman's Speech in U. S. S., Feb. 28, 1870, on "Funding Bill."

WATERS, H. F. Address on the Life and Character of J. Sherwin, by R. C. Waterston, Feb. 16, 1870, 8vo pamph., Boston, 1870.

WATERS, J. LINTON, of Chicago. Miscellaneous pamphlets, 4.

WILLSON, E. B. Miscellaneous pamphlets, 293.

By Exchange.

BOSTON SOCIETY OF NATURAL HISTORY. Proceedings, Vol. xviii, sig. 16, April, 1870, 8vo pamph.

BOTANISKE FORENING i Kjöbenhavn. Botanisk Tidsskrift udgivet af Den Botaniske Forening i Kjöbenhavn, 2 pamphs, 8vo, 1869.

BOWDOIN COLLEGE. Catalogue of the Officers and Students, 1869-70, 8vo pamph., Brunswick, 1870.

GESELLSCHAFT ZUR BEFÖRDERUNG DER GESAMMTEN NATURWISSENSCHAFTEN zu Marburg. Schriften der, Heft 3, 4, 5, 4to pamphlets, 1869. Beobachtungen ueber Lernaeocera, Perniculus und Lernae, von Dr. C. Claus, 4to pamph., 1868. Sitzungsberichte, 1866-68, 8vo, Marburg.

INSTITUT NATIONAL Genevois. Memoires, 1866-68, 4to pamphlets, Geneve. Bulletin, Nos. 23-27, 30-31, 8vo pamphlets, 1864-69.

KÖNIGLICH BAIERISCHE AKADEMIE DER WISSENSCHAFTEN zu München. Sitzungsbericht der, 1869, 7 pamphlets, 8vo. Ueber die Entwicklung der Agrikulturchemie, von August Vogel, 4to pamph., 1869. Denkschrift auf Carl Friedr. Phil. von Martius von C. F. Meissner, 4to pamph., 1869.

KÖNIGLIGE DANSKE VIDENSKABERNES SELSKAB. Oversigt over det Kongelige Danske Videnskabernes Selskabs og dets Medlemmers Arbejder i Aaret, 1866, 1869, 8vo pamph., Kjöbenhavn.

KÖNIGLIGE NORDISKE OLDSKRIFT SELSKAB. Memoires de la Société Royale des Antiquaries du Nord, 1866, 1867, 1868, 8vo, pamphlets, Copenhagen.

PEABODY INSTITUTE, Baltimore. Md. Discourse on the Life and Character of George Peabody, by S. T. Wallis, 8vo pamph., Baltimore, 1870.

YOUNG MEN'S ASSOCIATION of Buffalo, N. Y. Thirty-fourth Annual Report of the Executive Committee, 8vo pamph., Buffalo, 1870.

PUBLISHERS. Cosmos. Eclectic. Essex Banner. Gloucester Telegraph. Haverhill Gazette. Lawrence American. L'Investigateur. Little Giant. Lynn Reporter. Medical and Surgical Reporter. Nature. New York Genealogical and Biographical Record. Salem Observer. Sotheman's Catalogue. Trade Circular.



ANNUAL MEETING, WEDNESDAY, MAY 11, 1870.

President in the chair. Records of preceding meeting read.

The SECRETARY announced the following correspondence :

E. W. Buswell, Boston, May 5, 7; E. E. Chever, Chicago, Ill., March 12; Codman & Shurtleff, Boston, May 6; J. B. Lippincott & Co., Philadelphia, May 7; New England Historic-Genealogical Society, Boston, May 6; Ohio Historical and Philosophical Society, Cincinnati, May 2; George Henry Preble, Charlestown, May 5; Stephen Salisbury, Jr., Worcester, May 5; T. A. Tellkamp, New York, April 21; U. S. Dep't Interior, Washington, April 29.

The LIBRARIAN announced the following additions :

By Donation.

BUTLER, BENJ. F., M. C. Morton, Pool, and Warner's Speeches in U. S. S., April 14, 15, 19, 1870, on " Admission of Georgia," 8vo pamphlets.

HART, CHARLES H. Tribute to the Memory of Hon. W. Wallis, LL. D., 8vo pamph., Philadelphia, 1870.

SUMNER, CHARLES. U. S. S. Presentation of the Statue of Maj. Gen. Greene by the State of Rhode Island, with Remarks in U. S. S., Jan. 20, 1870, 8vo pamph.

UPHAM, WILLIAM P. Railroad Returns, 1867, 1 vol. 8vo, Boston. 1868. Miscellaneous pamphlets, 13.

WATERS, J. LINTON, of Chicago. Seventh Annual Report of the Chicago and Alton Railroad Co. for 1869. 8vo pamph., Chicago, 1870.

WILLSON, E. B. Eighth Census, 1860, 1 vol. 8vo, Washington, 1862. Christian Examiner for March, 1869. Rebellion Record, 1860-64. 8vo pamphlets, New York.

UNITED STATES DEPT OF INTERIOR. Documents 39th Congress. 4 vols; Documents of 40th Congress, 43 vols.

By Exchange.

ENTOMOLOGISCHEN VEREINE zu Stettin. Entomologische Zeitung. Herausgegeben von dem. 8vo pamph., 1869.

PUBLISHERS. American Literary Gazette. Canadian Journal. Cosmos. Essex Banner. Gardener's Monthly. Gloucester Telegraph. Haverhill Gazette. Land and Water. Lawrence American. Little Giant. Lynn Reporter. Medical and Surgical Reporter. Nation. Salem Observer.

The reports of the Recording Secretary, Treasurer, Librarian, and Superintendent of Museum were severally read and accepted.

The RECORDING SECRETARY reports that his short incumbancy of the office would entitle him only to little credit for progress, and also would be an excuse for any inaccurate statements, having had no personal knowledge and relying mainly upon the records.

Since the last annual meeting thirty persons had been elected to membership, and twelve of our associates have been removed by death, viz.: Francis Boardman, died at Salem, January 25, 1870, aged 84. Joshua Safford, died at Salem, May 13, 1869, aged 84. Joseph Barlow Felt, died at Salem, Sept. 5, 1869, aged 79. Joseph Adams, died at Salem, Oct. 5, 1869, aged 75. Stephen Osborne, died at Salem, Dec. 1, 1869, aged 65. Nathaniel James Lord, died at Salem. June 18, 1869, aged 64. Charles Davis, died at Beverly. Jan. 14, 1870, aged 63. John P. Phelps, died at Salem, April 16, 1870, aged 59. John B. Shepard, died at Salem, Dec. 3. 1869, aged 52. Willard L. Bowdoin, died at New Braintree, on a visit to his friends. April 27. 1870. aged 50. Brown E. Shaw, died at Salem. Jan. 17. 1870. aged 33. Robert W. Reeves, died at Salem. Oct. 16. 1869, aged 27, from the effects of a painful accident at Lynn a few months previous. Obituary notices of the above will be prepared for the *Historical Collections*.

By the will of the late Charles Davis of Beverly, this Society is entitled to receive a legacy of \$5000. to constitute a fund, the income arising therefrom to be appropriated for the general objects of the Society.

The Correspondence has been, as usual, large, arising mainly from membership and exchanges.

The Publications consisting of the BULLETIN, HISTORICAL COLLECTIONS, and the closing volume of the PROCEEDINGS, have been issued from time to time during the year. The publication of volume six of the *Proceedings* has been delayed, owing to unavoidable causes, but it is believed that it will be completed during the present year, and that in future the BULLETIN and *Historical Collections*, forming the current publications of the Institute, will be issued with regularity. By a recent vote the BULLETIN, which is issued in monthly parts, is furnished free to all members who have paid the assessments for the current year.

Meetings.—Twenty-three have been held during the year. Five of them were field meetings, held respectively at Wakefield, Wenham Middleton (Paper Mills), Rockport, and Lynn. The remaining eighteen, were, with few exceptions, evening meetings, at which were presented papers of value relating either to history, natural history, or horticulture.

Lectures.—A course of seven lectures has just closed. *First Lecture* by W. T. BRIGHAM, Esq., of Boston, Wednesday, Feb. 9, on "The volcanoes of the Hawaiian Islands." Long residence on these islands and frequent visits to the several craters afforded ample opportunities to glean a vast amount of information. *Second*, Tuesday, Feb. 15, by Dr. A. C. HAMLIN, of Bangor, Me., on "American Gems," illustrated by colored diagrams and an extensive series of the gems set as a necklace, tiara, brooch and ear-drops. Most of the gems prized by the ancients and moderns, are found in North America, and a large number within the limits of the United States—these were described—as emerald, beryl, turquoise, opals, diamonds, sapphires, tourmalines, etc. Precious stones are confined to no latitude but are found from the equator to the snows of Siberia and the glaciers of the Alps, though they are the brightest under the tropical sun. *Third*, by R. S. RANTOUL, of the Institute, Tuesday, March 1, "on the various modes of travelling before the introduction of railroads." He gave an historical sketch of the Eastern Stage Company, and other lines of stages in this vicinity that were established for the accommodation of the public; also brief notices of those most interested in these different companies, and portrayed in graphic language the scenes and incidents of stage life. *Fourth*, Tuesday, March 15, by E. S. MORSE, of the Institute, "how animals grow," was described in a lucid manner and finely illustrated by drawings on the blackboard. *Fifth*, Tuesday, March 29, A. HYATT, of the Institute, gave an account of the different theories with regard to the origin of life and the origin of species; differing in his own views to a greater or less extent from all previous authors, he brought forth facts to show the deficiencies of the received opinions. *Sixth*, Tuesday, April 12, Capt. HENRY

ROUNDY, of Beverly, lectured upon China and the Chinese; his information was obtained from personal observation and long study, having passed more than twenty years among that people. *Seventh*, Tuesday, April 26, a poem by Rev. JONES VERY, of Salem, "Settlement of Salem by the Puritans," was a happy selection, affording full scope for thought and reflection, and abounding in materials which are full of interest. His topics were the varied scenes which the early pioneers witnessed—the leaving of the mother country for opinion sake—the voyage across the Atlantic, the arrival on these shores, the laying out of the settlement, the erection of dwellings, the gradual modification of public affairs to conform to the growth of the people and the wants of the times.

These have usually been preceded by the performance of several pieces of music, vocal and instrumental, by members of the musical department, a practice as interesting as it is novel, and one which has added greatly to the pleasantness of the evening. The thanks of the Institute are due to the several lecturers, and also to those who took part in the musical exercises, for their kindness in contributing so essentially to the promotion of these objects of the Institute.

Historical Department.—The last report of the Superintendent of the Museum mentioned, that no arrangement existed for the coins and medals and paper currency. These have since received attention. The coins have been placed in a suitable cabinet and properly classified, with the exception of the ancient Greek and Roman coins. It is hoped that, during the present year, a gallery case will be constructed to contain the more attractive coins and medals. The paper money has been placed in appropriate volumes, in such a manner that additions may be easily inserted. This collection has been greatly increased within the past year.

Natural History Department.—The specimens in this department being deposited with the trustees of the Peabody Academy of Science, renders a notice here unnecessary. The Superintendent of the Museum will state in his report the condition of the department.

Horticultural Department.—Considerable interest has been recently awakened in horticulture, and several papers have been read on this subject at the evening meetings. A desire has also been expressed to revive the horticultural exhibitions, which in past years attracted so much attention in this vicinity. This, it is earnestly hoped, will meet with success. These exhibitions not only advance the cause of horticulture, but indirectly the general welfare of the Society—a number of persons are induced thereby to become interested, who would not otherwise have their attention turned in this direction.

The American Association for the Advancement of Science held in August last its annual meeting in Salem, under the auspices of the

Institute; the City Government of Salem, the Trustees of the Peabody Academy of Science and the Salem Board of Trade coöperating. Through the kindness of the County Commissioners and the proprietors of the Tabernacle Church, ample and convenient accommodations were afforded for the various meetings and committees. The citizens of Salem and vicinity doing everything in their power to render the visitors a pleasant and satisfactory week.

Musical Society.—In October last a society was formed under the name of the Essex Institute Musical Library Association, which by vote of the Institute had certain privileges in the rooms. During the past season it has given a series of very enjoyable social concerts, and has deposited a piano and a collection of musical books. The Institute has fitted the lower hall as a concert and lecture room, making one of the most agreeable places for entertainments of this character in the city.

An amendment to the charter, granted by the Legislature in February, and accepted at a meeting duly called for the purpose, will enable the Institute at any time to add to its other departments that of music, which will allow this new society to be incorporated with the Institute on a suitable basis.

I cannot close this report without mentioning my predecessor, Dr. A. H. Johnson, who resigned the office before the close of the year, with many regrets, on account of a prolonged visit to Europe. His experience rendered him most competent to the performance of its duties, and his great interest in the promotion of the objects of the Institute renders his loss as a secretary most sensible.

The TREASURER presented the following statement of the financial condition for the year ending May, 1870.

GENERAL ACCOUNT.

Debits.

Athenæum; Rent, half Fuel, etc.,	\$442 25
Publications, \$1,731 84; Salaries, \$672,	2,403 84
Repairs and fixtures, \$609 59; Gas, \$30 58,	640 17
Sundries, \$61 98; Insurance, \$30,	91 98
Express and Postage, \$121 70; Deposit in Savings Bank \$25,	146 70
Historical Department,	51 25
Natural History Department,	12 70
Balance Account.	289 90

\$4,078 79

Credits.

Dividends of Webster Bank, \$40; Lectures and Entertainments, \$161 56,	\$201 56
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Peabody Academy of Science balance of account, \$500; Bal- ance of Subscription A. A. A. S., \$634 33,	1,134 33
Temporary Loan, \$600; Athenæum for Janitor, \$75,	675 00
Donations, \$25; Sundries, \$33 27,	58 27
Sale of Publications, \$508 40; Assessments, \$1,341,	1,849 40
Balance,	160 23
	<hr/>
	\$4,078 79

NATURAL HISTORY AND HORTICULTURE.

Debits.

Binding, \$124 25; Pamphlets, \$5,	129 25
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Credits.

Dividends.—Naumkeag Bank,	\$28 00
Michigan Central Railroad,	50 00
From General Account,	51 25
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	\$129 25

HISTORICAL ACCOUNT.

Debits.

Binding, \$125; Sundries, \$4 50,	\$129 50
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Credits.

Dividends,—Lowell Bleachery,	\$80 00
Portland, Saco and Portsmouth Railroad,	36 80
From General Account,	12 70
	<hr/>
	\$129 50

The SUPERINTENDENT OF THE MUSEUM reports that the duties of the office have materially lessened since the deposit of the Natural History Collection with, and the transference of all donations in this department to, the Trustees of the Peabody Academy of Science. The Historical and Antiquarian portions of the collections have been usually under the care of the Curators of that department, and the condition of the same will be embodied in the report of the Secretary. It is appropriate that a statement be made at the annual meeting of the condition of the Scientific Collection in the custody of the Academy; what additions of scientific value have been made, and what progress in the promotion of the objects of this department has been accomplished.

As Director of the Peabody Academy, and also as Superintendent of the Museum, I would report most favorably, both in regard to the care which has been given to the collections, the present arrangement, and the great benefit thus conferred upon the public.

The Specimens for the most part arranged with those of the East India Marine Society, and the recent accessions of the Academy, are being very rapidly brought into final order, by being named, catalogued, and placed in suitable and safe cases. One feature that was prominent in our former Museum, the formation of a County Collection, has been continued by the Academy, and there are now quite perfect series of specimens illustrating the natural history of the County in all the departments, properly arranged in the western gallery. Every effort will be made to complete this collection. Thus one of the great objects of the Institute will undoubtedly be accomplished under the present arrangement in a very satisfactory manner.

The present advanced state of the Museum of the Academy is in a great measure due to the principles and labors of the Institute in former years, and we should, one and all, be grateful that our incipient plans are now being so well and satisfactorily matured, though under the care of another institution whose objects are in many respects identical. A large number of donations have been received during the year. These have been announced at the regular meetings.

There has been an average daily attendance of two hundred visitors to the Museum during the year, the largest number admitted on any two days, was 1158 on Monday, July 5, and 1337 on Thursday (Fast day), April 7th.

The Museum is open to the public on Tuesdays, Wednesdays, Thursdays, Fridays and Saturdays, from 10 A. M. to 5 P. M., when a constable, provided by the city, is in attendance.

The LIBRARIAN submitted the following report:—

The additions to the Library during the year now closed have been as follows:—

DONATIONS.

Folios,	30	Pamphlets and Serials, . .	2,951
Quartos,	35	Almanacs,	60
Octavos,	370		
Duodecimos,	89	Total,	3,011
Sexdecimos,	23	Total bound volumes, . .	552
Octodecimos,	5		
	—	Total of Donations, . .	3,563
Total,	552		

EXCHANGES.

Quartos,	10	Pamphlets and Serials, . .	1,061
Octavos,	82	Total of bound volumes, . .	93
Duodecimo,	1		
	—	Total of Exchanges, . .	1,154
Total,	93	Total of Donations, . .	3,563
		Total,	4,717

Of the total number of Pamphlets and Serials 2,406 were Pamphlets and 1,606 Serials.

The Donations to the Library for the year have been received from two hundred and three different individuals and twenty-four different societies and public bodies.

The Exchanges have been received from one hundred and forty-six different societies, of which sixty-seven are foreign societies. Many of these exchanges are of great value and could not be obtained in any other way than in return for our own publications.

Besides the additions to the Library, the Editors of the *American Naturalist* have received in exchange and placed on deposit, in the Reading Room of the Institute during the past year, eleven bound volumes and two hundred and sixty-five serial publications.

By means of exchange, also, our sets of the folio annual edition of Laws of Massachusetts has been rendered complete from the commencement, in 1775, to the octavo edition of 1806, with the exception only of eight pages, which we hope soon to receive, and thus complete our series of Laws of Mass., from 1775 to the present time. These folio editions of the Laws are extremely rare, and only two other complete sets are known to exist anywhere. Large additions have also been made to our series of Massachusetts Resolves and of the Journals of the Massachusetts House of Representatives.

W. P. UPHAM, Curator of Manuscripts, read the following report on the present condition of that section of the department of History.

The character and importance of the various legal papers, charters, commissions, autographs, records of societies, and other manuscripts deposited in the Institute, and the duty devolving upon us of properly preserving them, was fully set forth in a former report (see Annual Meeting, 1865). During the past year some additions have been made to our collection, and I am pleased to be able to state that much has been accomplished towards bringing this section into a condition that will be creditable to the Society, and will give confidence to those who deposit here such perishable records of the past that they will be properly cared for and preserved for future use. Being convinced that, at a moderate expense, our manuscripts could be arranged in order, and made more secure from accident and injury, and at the same time more available for antiquarian and historical research, a few of the friends of the Institute have been called upon, who have generously responded and furnished the means for carrying out this object. I wish here to acknowledge the receipt of the aggregate sum of five hundred and five dollars (\$505.00) subscribed for this purpose by the following gentlemen: John Bertram, George Peabody, Joseph S. Cabot, James Upton, Richard S. Rogers, Henry Gardner,

L. B. Harrington, R. Palmer Waters, Charles A. Ropes, Wm. B. Howes, Benjamin Stone, Benjamin Cox and Francis Cox.

Of this sum of five hundred and five dollars, fifty dollars and fifty cents have been expended for blank books and other material, and one hundred and four dollars and thirty-five cents for labor employed since Dec. 1st, 1869, leaving a balance of three hundred and fifty dollars and fifteen cents, which it is believed will enable us to accomplish during the coming year very much of the work which remains to be done in this section. Very many of the manuscripts have already been arranged, and eight large folio books filled with papers classified and chronologically arranged. The Secretary, Mr. Robinson, has taken special charge of the collection of commissions which he has arranged and classified in blank books with great care and skill.

The committee appointed at the meeting held on Monday evening, April 4, to report at this meeting such amendments to the by-laws as may be required to conform to the amendatory act of incorporation, reported the following proposed amendments:

BY-LAWS, CHAPTER II.—Instead of the section relating to the Curators, substitute the following:

“THE CURATORS shall have the special charge of the arrangement, cataloguing and labelling of specimens in their respective departments, and report on the condition and wants of the same at the annual meeting.”

Instead of the section relating to a Lecture Committee, substitute the following:—

“A LECTURE COMMITTEE, who shall arrange for such Lectures, Gatherings, and Meetings, as may be deemed advisable, and are not otherwise provided for.”

CHAPTER III.—Instead of the first three paragraphs substitute the following:

“The following shall be the Departments of the Institute:—1. DEPARTMENT OF HISTORY. 2. DEPARTMENT OF NATURAL HISTORY. 3. DEPARTMENT OF HORTICULTURE. 4. DEPARTMENT OF THE ARTS.”

The above amendments were acted upon separately and unanimously adopted.

The Committee also recommended the following amendment to the Constitution:

Instead of ARTICLE I, substitute the following: “ARTICLE I. The objects of the ESSEX INSTITUTE are the collection and preservation of materials for the Civil and Natural History of the County of Essex, and the advancement of Science, Literature, and the Arts.”

Voted to proceed to the choice of officers.

The following were elected for the year ensuing and until others shall be chosen in their stead.

President.

HENRY WHEATLAND.

Vice Presidents.

Of History—A. C. GOODELL, JR. *Of Natural History*—S. P. FOWLER.
Of Horticulture—WM. SUTTON. *Of the Arts*—GEO. PEABODY.

Recording and Home Secretary.

JOHN ROBINSON.

Foreign Secretary.

A. S. PACKARD, JR.

Treasurer.

HENRY WHEATLAND.

Librarian.

W. P. UPHAM.

Superintendent of the Museum.

F. W. PUTNAM.

Curators of Department of History.

W. P. Upham, H. M. Brooks, M. A. Stickney, John Robinson, R. S. Rantoul.

Curators of Department of Natural History.

H. F. King, G. A. Perkins, C. M. Tracy, E. S. Morse, Alpheus Hyatt, Benjamin Webb, Jr., N. D. C. Hodges.

Curators of Department of Horticulture.

J. S. Cabot, R. S. Rogers, G. B. Loring, John Bertram, S. A. Merrill, Wm. Maloon, G. F. Brown, C. H. Higbee, John F. Allen, Francis Putnam, Wm. Mack, B. A. West, G. D. Glover.

Curators of Department of the Arts.

James A. Gillis, F. H. Lee, D. B. Hagar, George M. Whipple, H. F. G. Waters.

Lecture Committee.

James Kimball, A. C. Goodell, Jr., George Perkins, G. D. Phippen, Wm. Northey, Wm. Neilson.

Finance Committee.

J. C. Lee, R. S. Rogers, James Upton, S. Endicott Peabody, Robert Brookhouse.

Field Meeting Committee.

G. B. Loring, S. P. Fowler, C. M. Tracy, E. N. Walton, A. W. Dodge, James T. Hewes, Caleb Cooke.

Library Committee.

J. G. Waters, Alpheus Crosby, W. C. Endicott, W. S. Messervy.

Publication Committee.

A. C. Goodell, Jr., F. W. Putnam, C. M. Tracy, R. S. Rantoul, H. M. Brooks.

SOCIAL MEETING, TUESDAY, MAY 24, 1870.

THIS meeting was held at the request of several members, to welcome the advent of spring, the hall being tastefully decorated with stands and hanging baskets of flowers, and to revive the interest in the horticultural department which has been for several years in a quiescent condition. In the early days of the Natural History Society, when a small cabinet contained the entire collection, and the library consisted of a few volumes, recourse was had to the exhibitions of fruits and flowers to render the rooms pleasant and attractive, and for twenty years these were our main reliance to secure the notice and the patronage of the public. The exhibitions, at first small and unpretending, soon assumed a proportion that few only exceeded them in magnitude and none in the beauty and size of many of the specimens shown. Not only the finest products of the gardens and greenhouses were arranged upon our tables and stands, but the native flowers usually received special attention, particularly those rare and curious floral gems that are only found in the most secluded and almost inaccessible recesses of the woods and forests. A gradual change is perceptible in the appearance of the exhibitions, at different periods, by the introduction of new and the disappearance of the old and familiar species and varieties; also a similar change among the contributors; the early pioneers are now passing away; another generation is taking their places; may the latter be inspired with an increased zeal and enthusiasm, and having such a prestige and such an accumulation of experiences be enabled to advance still higher the cause of horticultural science.

The PRESIDENT, in his opening remarks, gave a brief account of the exhibitions of fruits and flowers in the early days of the Natural History Society, and their influences in awakening an interest not only in horticulture but in the general objects of the society. The union of the Essex Historical Society in 1848, and the adoption of the present name. The new vigor and zeal imparted to historic research by this latter movement, the introduction of field meetings, the different publications, historical and scientific, and the progress made in the fulfilment of its plans and objects. The inducement of Mr. George Peabody, by the success that had attended our efforts in these directions, to place in the hands of nine trustees the sum of \$140,000 for the promotion of science and useful knowledge in this, his native county, and to empower his trustees to make such arrangements with the Essex Institute as may be necessary or expedient for carrying into effect the provisions of his trust. The incorporation of the trustees in 1868, under the name of "The Trustees

of the Peabody Academy of Science." The two institutions working in a common cause, with organizations entirely different in character. The Academy, a close corporation of nine members holding funds for specific purposes, and employing agents to perform duties not inconsistent with the Instrument of Trust. The Institute a popular institution of some hundreds of members. The one supplementing the other, and the reasons why the two may not continue, as now, to cooperate harmoniously in the performance of duties committed to their care, and thus to build up an institution, or a series of institutions, which will shed a brilliant lustre for a long term of years throughout our land, and be a beacon light to the investigator in history, science, art and literature.

He mentioned the amendatory act recently passed by the Legislature and the organization of a new department, that of "the arts," and expressed the hope that the increasing development of a taste for music and the other fine arts in this community will soon place it in an honorable position. Horticulture he considered the prime mover in this chain of events, and to her aid the literary and scientific institutions in this place are largely indebted for their present position.

Mr. A. C. GOODELL, Jr., remarked upon the pleasant change in New England with regard to the observance of May day, this ancient holiday of motherland. He alluded to the antiquity of the name of May, some attributing it to Maia the mother of Mercury, others asserting that it is of Teutonic origin. The celebration of the day was distasteful to the Puritans, and he gave a very interesting account of Thomas Morton of Clifford's Inn, Gent., and of the famous May day revels at Ma-re Mount, now Mount Wollaston, in Quincy, which were celebrated under his direction in 1626, and of the action of the colonial authorities against him, the dispersion of his followers and the destruction of his plantation, and of the principal known facts of his subsequent career down to the time of his death in York, Me., in 1646; and stated that this first May day jubilee was the last for generations. The times are greatly changed and, it is to be hoped that May morning will evermore be held sacred to the celebration of the sun's return, the bursting of green buds and the birth of the flowers.

Mr. GEORGE D. PHIPPEN narrated some of his early reminiscences of the horticultural exhibitions and of his botanical excursions in this vicinity at that time; also the changes that had occurred; many of the old favorite flowers have retired before the waves of an increasing population, and hereafter they will be strangers to their once familiar grounds. A more extended account of these reminiscences, especially in relation to Dark Lane (so-called in the olden times) and its vicinity, will be given in a future number.

Mr. C. M. TRACY made some pleasant remarks, referring to the different sciences and arts gathered under and protected by the ample wings of the Essex Institute. He said that when in his childish days he pored over the wondrous stories of classic ancient mythology, he did not dream that he should come to a festival in this ancient city, a gathering of the Essex Institute, and find present in very action the gods and heroes of his childhood. A festival in the interest of horticulture, a service in honor of Flora and Pomona, and to grace and adorn it have come down nearly all the deities of Olympus—Juno, Jupiter and Apollo, Clio, fair muse of history, Euterpe and Terpsichore. Laying emblem and pleasantry aside, he remarked that there is an alliance that horticulture claims and freely receives. That in all the works of horticulture, floriculture, and every culture that aims to bring from the earth a beauty and an excellence hitherto unseen, we have the full sympathy and applauding voice of nature. That the rearing of lovely flowers and delicious fruits is not a turning away from the normal standard—an artificializing of things and a forsaking of true beauty and beautiful truth.

He spoke of his love for the wild flowers, and of the many hours he had spent with them, but he also loved the blossoms of the garden, and had full faith in the refining, elevating influence that they exert over those who learn to enjoy them, and he begged to encourage this worthy undertaking in aid of the arts of culture. It is but the awakening, the bringing to view of a loveliness that otherwise were dormant. As ambassador from the outer court of Flora, he brought this message:—Nature and Art are not opponents but counterparts, and between them there is only harmony and the sympathy of loveliness, forever and ever.

The following programme of music, under the direction of Mr. E. C. CHEEVER, was performed by a select choir, assisted by Miss HATTIE M. SAFFORD, and Mr. GEORGE M. SUMNER, pianist, and interspersed with the addresses, added much to the interest and pleasure of the meeting:

1. CHORUS. { a "The first Spring day." *Mendelssohn.*
 b "Early Spring."
2. SONG. "The Woods." *Franz.*
3. SONG. "The coming May." *E. C. Cheever.*
4. PIANO SOLO. "Frühlingslied." *Mendelssohn.*
5. CANZONE. "Amiamo la vita." *Randegger.*
6. DUETT. "What makes the Spring." *Abt.*
7. CHORUS. { a "Spring." *Muller.*
 b "Ye Shepherds tell me." *Mazzinghi.*

BULLETIN

OF THE

ESSEX INSTITUTE.

VOL. 2.

SALEM, MASS., JUNE, 1870.

No. 6.

One Dollar a Year in Advance. 10 Cents a Single Copy.

ACTS AND RESOLVES OF THE PROVINCE OF THE MASSACHUSETTS BAY.*

THE Essex Institute has lately received from the Commonwealth, as a donation to its library, two copies of the first volume of this most important publication. The early part taken by this society in urging legislative action for the purpose of bringing together for preservation a complete series of the Provincial Laws, very many of which were then only to be found in a single private collection, renders proper from us something more than a mere passing notice.

This edition, which will be in many respects more complete and useful than any which has preceded it, was authorized by the General Court in 1867, and is in charge of Ellis Ames, Esq., and Abner C. Goodell, Jr., Esq., commissioners appointed for the purpose. These gentlemen, as is well known, are eminently qualified for such an undertaking by their intimate and thorough knowledge of the history of legislation in our State, and by

*The Acts and Resolves, Public and Private, of the Province of the Massachusetts Bay: to which are prefixed the Charters of the Province, with historical and explanatory notes, and appendix. Vol. I. Boston: Wright & Potter: 1869.

their experience in publications requiring the utmost accuracy and faithfulness in the rendering of ancient documents. We have reason to congratulate the Institute that one of its Vice Presidents, and always a most active member, was selected upon this commission, and has had so large and honorable a share in carrying on this very important work.

The first volume, now published, contains all the acts and resolves of the Province, from 1692 to 1714, together with the Province Charters of 1691 and 1726, accompanied by very valuable and important notes, throwing much new light upon the history of legislation in Massachusetts. The preface also gives a full account of all previous editions of these statutes, which will be found of great service to those desiring information on this subject.

The information obtained from the Public Record Office at London, as to the disallowance of acts from time to time by the Privy Council, of itself renders this edition invaluable. The opinions of the law officers of the Crown and other leading minds of Great Britain on subjects relating to legislation, commerce and constitutional rights, are worthy of particular notice as they have never previously appeared in print.

Of the general appearance of this volume now published, and the plan of its arrangement, we feel it impossible to speak too highly. The index is all that could be asked, and the various lists of acts, with the dates of their passage and expiration or disallowance, &c., will be found very useful and convenient.

The first proposal for the publication, now so satisfactorily commenced, was by Governor Andrew, who, in his Address to the Legislature, Jan. 5, 1861, earnestly recommended the collection and publication of the Statutes

from the union of the Colonies of Plymouth and Massachusetts Bay in 1691, to the adoption of the Constitution in 1780. Hon. N. H. Whiting, Chairman of the Committee to which this recommendation was referred, made an elaborate report to the Senate, in which the importance and necessity of publishing these statutes was very clearly set forth, many instances being cited from the decisions of the Supreme Court, showing the influence these Provincial laws have upon many important questions.

At a meeting of the Essex Institute, Feb. 23, 1863, a resolution was passed approving the recommendation of the Governor above referred to and which had been repeated by him in his Address of the following year, and requesting members to join in any proper measure to carry out the object proposed. A similar resolution was subsequently voted by the New England Historic-Genealogical Society, and by the Massachusetts Historical Society.

In 1865 the Governor again renewed his recommendation, referring to the resolutions above mentioned, and the Committee on the Judiciary, to whom the subject was referred, made a favorable report, in accordance with which a resolve was passed authorizing the preparation for publication of a complete copy of these Statutes, including all the sessions acts, public and private, temporary and perpetual, passed by the Provincial Legislature.

In 1867, as already stated, a further resolve was passed providing for the publication of the material which had been collected under the first resolve of 1865.

An essential foundation for the accomplishment of this work was the very full series of Provincial Statutes which Mr. Ames was over thirty years in collecting, and which is now the property of the Commonwealth.

We notice that the Institute is honorably referred to by the Commissioners, as furnishing material aid from its library. This instance, in which our collection has been rendered useful, should remind us of the importance of completing all our series of public documents.



NOTICES OF NEW BOOKS.

Among the recent additions to the library justice compels us to mention two works, both prepared by officers of the Institute and issued from the Institute Press. The one a valuable contribution to civil history, the other to natural history.

MR. MATTHEW A. STICKNEY has published in a finely printed octavo volume of 526 pages, with illustrations, a very interesting and full *Genealogical Memoir of the Stickney Family*, or a memoir of the descendants of William and Elizabeth Stickney from 1637 to 1869, with an appendix which contains brief notices of a few of the allied families.

This is a beautiful monument, raised with much care and labor to the memory of the Stickney Family — a family that has enrolled, during successive generations, among its members, many honored names, to all of whom befitting tributes, sedulously prepared, are inserted.

The author, with an ardor which indifference on the part of others could not repress, has devoted much time during the lapse of many years, in carefully examining the various parish, church, town, county and other records, conducting a very extensive correspondence with members of different branches of the family and others scattered far and wide in almost every section of the Union and the adjoining Provinces, and, indeed, omitting

nothing that would impart any information upon this his favorite study.

The materials thus collected together are presented in a lucid and attractive form, with copious indices to facilitate reference and the tracing of the pedigree of any member.

We hail with pleasure every attempt like this to record the names and to perpetuate the memory of the founders of the county. May the time be not far distant when every family will have some printed register of its ancestry to strengthen the love of kindred for each other and for their native land. What more beautiful tribute than that of arranging the genealogy of the paternal and maternal line of ancestry for the gratification of those whose honored names they bear, can one pay to the memory of the departed.

In preparing this work for publication the author received the valuable assistance of his second daughter, who, in consequence of his impaired health, has performed the duties of amanuensis, proof-reader, and preparer of the Index. Mr. Stickney is entitled to the thanks of all students in history and genealogy and especially to the members of this family, for presenting the results of his labors in so attractive and agreeable a form.

Dr. A. S. PACKARD, Jr., has completed his *Guide to the Study of Insects*, which was issued in ten parts at irregular intervals during the past two years, in a beautiful volume of 702 octavo pages with eleven plates and 651 wood-cuts, illustrating in all, 1,238 objects. It is accompanied by a glossary of entomological terms, a calendar of the monthly appearance of insects, and a copious index.

This is the only American Text Book of Entomology,

and is designed to teach the beginner the elements of the science, and to serve as a guide to the more elaborate treatises and memoirs which the advanced student may wish to consult. In order to make it of value to farmers and gardeners, whose needs the writer has kept in view, concise accounts have been given of insects injurious or beneficial to vegetation or those otherwise affecting human interests.

The *Guide* is already in use in several of our principal colleges and agricultural schools as a text book or for reference, and has met with favor from teachers and naturalists. The first edition has been exhausted; the appearance of a second indicates its just appreciation, the large number of entomologists in the country, and the growing sense of the importance of the study of practical entomology by agriculturists.



FIELD MEETING AT BRADFORD, THURSDAY, June 16, 1870.

The first field meeting, the present season, was held in Bradford, a beautiful old town lying on the southern bank of the Merrimac River, and containing numerous fine residences. The attendance was large, many of the towns in the county being represented.

The members were met at the station by S. W. Hopkinson, Esq., chairman of the committee of arrangements, and other citizens of Bradford, and conducted to the vestry of the Congregational church, where a cordial welcome was extended by Dr. WILLIAM COGSWELL; and, after the announcement of the programme of the day, divided into parties to visit different localities of interest, the citizens of Bradford acting as guides and furnishing teams for their accommodation.

Among the places visited were the old and new cemeteries, the former, at the site of the first church built in Bradford, being the burial place of its early ministers and many of the first settlers:—the town clerk's office, where several of the party spent much time in examining the ancient records, and were amply repaid for their trouble, by the interesting items brought out in their researches;

Joel's woods, where the botanists obtained many choice specimens of our native flora (Joel, whose name is thus commemorated, was not a wealthy land owner, but a colored personage, who attended to such essential duties as devolve upon the village sexton); the Neck, Head's Hill, and Cogswell's Hill, where were obtained fine views of the windings of the Merrimac, the stirring and busy city of Haverhill, and the green meadows and picturesque slopes which rise from the river banks; the great maple tree at the old ferry, a tree of wonderful growth, with a trunk of eight feet in diameter; John Day's mill in the Boxford limits, where bone fertilizers are prepared; and Chadwick's pond, a fine sheet of water, half in Bradford and half in Boxford.

Bradford is a town of about two thousand in population. It has one church, the present house being the fourth since the establishment in 1682, in December of which year the Rev. Zachariah Symmes was settled. Many of the people cross the bridge to attend Sabbath worship in Haverhill, and the distance is less than many go in our larger towns and cities. It may not be generally known that the wholesale shoe business, now so successfully pursued at Haverhill, began originally at Bradford. About the year 1792, Messrs. Dodge and Terry went to Georgetown, D. C., where they sold Bradford-made shoes on commission; and this trade was subsequently kept up for thirty or forty years.

At 1 P.M. the various parties reassembled to partake of a bountiful collation arranged under the trees on the common by the spirited and hospitable citizens; after which they repaired to the New Bradford Academy, and assembled in the hall of that institution for the afternoon exercises.

At 2 P.M. the meeting was called to order by the President, who, in his opening remarks, alluded to the pleasure of visiting this old town of Bradford, which in the early settlement, was included within the limits of Rowley, and was known as Merrimack, and Rowley village on the Merrimack, and in 1672 was incorporated as a distinct township under the present name. This academy, in whose hall we now meet, is one of the oldest of this class of institutions, having been organized in 1803, and is one of the few that has survived the vicissitudes of the times. It has recently been enabled, by the liberality of its friends, to erect this beautiful and convenient structure. After noticing some of the incidents in the early history of the Institute, and specifying a few of its objects and aims, the President called for the reading of the records of the last meeting by the Secretary.

The Secretary announced the following correspondence:

From Die Naturforschende Gesellschaft Des Osterlandes, Altenburg, Dec. 26;
Armstrong, J. F., Cleveland, O., May 13; Akklimatisations-Verein, Berlin, Feb. 8;
Die Gesellschaft Naturforschender Freunde, Berlin, January 21; Boston Public

Library, May 18, 21; Boston Society of Natural History, May 16; Bowdoin College, May 24; Boyd, W. H., Washington, D. C., May 19, 26, June 3; Brewer, W. H., New Haven, May 28; Brooks, H. A., Salem, June 13; Buffalo Hist. Society, May 19; Brendel, F., Peoria, Ill., May 6; Bushée, James, Worcester, April 23; Chandler, C. F., New York, May 19; Chicago Academy of Science, May 24; Cogswell, George, Bradford, June 7; Coburn, J., Boston, May 18; Conant, W. P., Caledonia, Mo., May 5; Eastern Railroad, Boston, June 11; Felt, N. H., Salt Lake City, May; Naturforschenden Gesellschaft, Frankfurt, Feb. 9; Die Naturforschende Gesellschaft, Freiburg, Jan. 10; Gillis, J. A., Salem, May 15; Goldsmith, John H., Salem, May 10; Museum Comp. Zool., Cambridge, May 12, 21; Haines, William A., New York, May 13; Hale, M. H., Savannah, Geo., May 17; Hodges, N. D. C., Salem, May 8; Holmes, J. C., Detroit, May 13, 19; Kendig, A. B., Dubuque, Iowa, April 28; Kingsford, Wm., Lynn, May 8; Lunt, W. P., Boston, June 14; Mann, S. B., Providence, May 23; Massachusetts Hort. Society, May 19; Merrimac Valley Dental Association, May 16; Minnesota Hist. Society, May 23; Neilson, Wm., Salem, May 24; New England Hist. Genealogical Society, May 18; New York Hist. Society, May 18; New York Liberal Club, May 31; New York Lyceum Natural Hist., May 23; New York Merc. Lib. Association, April 29; Preble, G. H., Charlestown, May 13, 16, 25, 31; Rhode Island Hist. Society, May; Smithsonian Institution, April 21; Stickney, M. A., Salem, May 17; U. S. Dep't of Interior, May 9; Walton, E. N., Salem, May 16; Waters, Henry F., Salem, May 10.

The Librarian after the announcement of the following additions to the library, gave brief notices of the Province Laws of Massachusetts, Memoirs of the Stickney Family, and Packard's Guide to the Study of Insects. [See pages 81-86.]

By Donation.

ALLEN, J. FISKE. Christian Register, 54 numbers. Boston Cultivator, 52 numbers. Miscellaneous pamphlets, 11.

BOSTON, CITY OF. Boston City Documents for 1869, 3 vols. 8vo.

BUTLER, BENJ. F., M. C. Congressional Globe, 1868-9, 4 vols. 4to. Memorial Addresses on W. P. Fessenden, 1 vol. 8vo. Message and Documents, 1868-70. War Department, 4 vols. 8vo.; Interior, 2 vols.; State, 1868-9, 2 vols.; Navy and P. O., 1869-70, 1 vol. Abridgement, 1868-9, 1 vol. 8vo. Constitution, Manual, Rules, and Barclay's Digest, 1868, 1 vol. 8vo. Commercial Relations, 1868, 1 vol. 8vo. Causes of Reduction of American Tonnage, 1870, 1 vol. 8vo. Commerce and Navigation, 1868, 1 vol. 8vo. Smithsonian Report, 1868, 1 vol. 8vo. Finance Report, 1869, 1 vol. 8vo. New York Election Frands, 1869, 1 vol. 8vo. Mineral Resources of the United States, 1869, 1 vol. 8vo. United States Geological Survey of Colorado and New Mexico, 1 vol. 8vo. Congressional pamphlets, 3.

CHAMBERLAIN, JAMES A. The Douglas Axe Manufacturing Company's Catalogue, 1 vol. 8vo, Boston, 1870. Two pamphlets.

MASSACHUSETTS, STATE OF. Acts and Resolves of the Province of the Massachusetts Bay, 1692-1714. Vol. 1, two copies. 8vo, Boston, 1869.

FELT, N. H., of Salt Lake City. Desert Evening News, 44 numbers. Miscellaneous pamphlets, 10.

GREEN, SAMUEL A., of Boston. Inaugural Address of the Mayor of Boston, Jan. 3, 1870, 1 vol. 8vo, Boston, 1870. Waterston's Address on the Life and Character of T. Sherwin, 1 vol. 8vo, Boston, 1870. Miscellaneous pamphlets, 11.

LE BARON, J. F. Report on a Supply of Water for Lowell, 8vo pamph., 1869.

LEE, FRANCIS H. Miscellaneous pamphlets, 150.

LEE, JOHN C. Commercial Bulletin for May, 1870.

LEWIS, WINSLOW, of Boston. Sermon at Ordination of Rev. W. Jenison, May 29, 1728, 8vo pamph., Boston, 1728.

MARVIN, W. T. R. Cotton Mather and Witchcraft, 12mo pamph., Boston, 1870.

MCKENZIE, S. S., of Topsfield. Remarkables of Dr. Increase Mather, 1 vol. 12mo. Sermon at the Funeral of Rev. A. P. Tenney, March 4, 1867, 8vo pamph., Concord, 1867.

O'DONNELL, JOHN. Journal of the Fair, Salem, May, 1870, 6 numbers.

PUTNAM, F. W. Note on the Occurrence of *Euleptorhamphus longirostris* on the Coast of Massachusetts, 8vo pamph.

RANTOUL, R. S. Miscellaneous pamphlets, 4.

SUMNER, CHARLES, U. S. Senate. Congressional pamphlets, 4. Message and Documents, 1868-9. War Department, 2 vols. 8vo; Navy, 1 vol. 8vo; Post Office, 1 vol. 8vo; State, 2 vols. 8vo; Interior, 1 vol. 8vo. Memorial Addresses on Wm. Pitt Fessenden, Dec. 11, 1869, 1 vol. 8vo, Washington, 1870.

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The SUPERINTENDENT announced the following additions to the Museums of the Institute and of the Academy.

Dr. C. C. ABBOTT, of Trenton, N. J. Specimens of several species of Fish from N. J.

FRANK BUTLER, of Salem. Young Lump Fish from the Grand Bank.

W. W. BUTTERFIELD, of Indianapolis, Ind. Small collections of plants from Indianaapolis.

GEORGE CHASE, of Salem. Wild Oats from Mountain View, Santa Clara county, California.

Mrs. H. M. COLCORD, of Peabody. Triton violaceus from Peabody.

Dr. ELLIOT COUES, Fort Macon, N. C. Collection of Fishes, Worms, Crustaceans and Mollusks from Fort Macon; also a young turtle from the same place.

JOHN G. FELT, of Salem. Specimen of the wood of apple tree showing the ravages of Insects.

WILLIAM GARDNER, of Salem. Attacus Luna (Lunar Moth).

GEORGE D. HERSEY, of Westerly, R. I. Specimen of Boleosoma Olmstedii from Pawtucket River.

FRANK HOLLAND, of Salem. Young Woodchuck from Salem.

Mrs. MARY MANN, of Cambridge. Plants from the Herbarium of the late Horace Mann.

R. L. NEWCOMB, of Salem. Quartz, Porphyry and Agate Pebbles from California.

JOHN C. OSGOOD, of Salem. *Attacus Luna* (Lunar Moth).

Dr. A. S. PACKARD, Jr., Salem. Crustaceans, Worms, Shells, Insects, etc., from Fort Macon, N. C.

Dr. GEORGE A. PERKINS, of Salem. A Mandingo Hammock, cloth from the Gold Coast. Trumpet made of Antelope's Horns. Rattle used by Gree-gree men. Charms worn on the neck and wrists. Samples of Material used for making cloth. A pod of *Acacia* sp., from Cape Palmas. Two knives from West Africa.

FRANK SHEPARD, of Salem. *Attacus Luna* (Lunar Moth).

WILLIAM H. SILSBEE, of Salem. Parasites from the Red-winged Blackbird.

RUSHTON SMITH, of Waverley, New York. Stone arrowhead from Banks of Delaware River, Pa., and two from Tioga Co., N. Y.

CHARLES F. TULLOCK, of Salem. *Telia Polyphemus* from Salem.

Mrs. TWIST, of Peabody. *Triton violaceus* from Peabody.

B. A. WEST, of Salem. Skull of a four-horned Goat from the interior of Western Africa.

The President then invited Dr. GEORGE B. LORING (Chairman of the Field Meeting Committee) to the chair, who made a very felicitous speech, in which he alluded to the early history of the place, its beautiful situation, its proverbial prosperity and its high rank intellectually, and narrated incidents in its subsequent career. He remarked upon the flourishing condition of the academy, and paid a deserved tribute to some of the past teachers and distinguished graduates.

Dr. GEORGE COGSWELL, of Bradford, was then called upon and in a brief and congratulatory speech extended a hearty welcome to the Institute and its friends, and expressed the gratification of the citizens of the town, and of the teachers and pupils of the academy, in having one of its meetings held in this place.

Mr. F. W. PUTNAM was called to the stand to report on the various zoological specimens that had been collected by the party which visited the pond. He stated that Chadwick's pond was a sheet of water of considerable extent, and on the side at which it was approached was quite shallow for some distance from the shore, enabling a person to wade out among the pond grass and weeds and observe aquatic life in several phases in a very satisfactory manner. Here were to be seen several species of Unionidæ, Planorbis and Linnæa, some moving slowly over the sand, others feeding on the various minute organisms on the plants. Here also could be seen the bright and lively little pickerel darting suddenly from under a large leaf where he had laid in wait for some unfortunate insect to fall from the grass waving above him, or, desirous of higher game, making a dart for a minnow or young shiner; or slowly moving about with their usual restlessness, were the young shiners and dace, with now and then a banded minnow, a young bream, or a young perch moving

rapidly across the scene, while, ever and anon, a giant among them all, an adult bream would swim slowly through the grass, exhibiting its wavy fins and grace in its changeable course. Here also was the paradise of aquatic insects: water beetles were chasing each other about in their wild dance, now in a circle, one close on the other, then suddenly off to the right and the left, back again to the centre, then "all hands round," and off again: several species of Caddisflies, slowly crawling along in their artful cases of sticks, of straws, or of stones; with now and then a large and handsome leech, stretched to its utmost length, making all haste possible in its undulating course to a more congenial spot; or the little red spider, looking like a ruby in the water, swimming about apparently with some grand object in view.* While all this and much more was going on under the water, how full of life was the air immediately over it. There were to be seen several species of dragonflies darting about after their smaller relatives, while occasionally one of these "dragons" would fall a victim to a higher and more powerful foe to insect life, as a swallow would dart over the water, sometimes even wetting its feathers in its eagerness for a dainty bit. On almost every projecting blade of grass could be seen the dried skins that had protected the dragons and their friends while pursuing their aquatic life, but now left behind by the brightly colored and gauzy winged creatures whose short aerial lives were to be spent in sunshine. On many of the blades of grass could be seen the eggs of some aquatic dipterous insect in the form of large, dark purple bunches, the weight of which was sufficient to bend the grass over so that the eggs floated on the water. All this and much more was taking place and could be seen as we stood up to the top of our boots in the water; and, I ask, was it not worth wading for and watching for? In answer to my question I will say, try it once, and you will be sure to do so again, if you find you have anything in your head worth calling eyes.

Several specimens were sent to the table for explanation, among them a large mudturtle (*Chelonura serpentina*) which from his snappish manner few in the party thought worthy of farther acquaintance, but after a few remarks on his peculiar structure by Mr. Putnam, and on suggestion that *Chelonura* soup was not to be despised, he was looked upon with toleration. The habits of the dorbug were also related, and an attempt was made to convince the young ladies of the Academy, who had evinced their special interest in this question, that in its present adult form it was a harmless insect, and would not bite, notwithstanding the peculiar sensation it occasioned in its attempts to maintain a close acquaintance. A large moth collected by one of the

* Mr. Hyatt collected a female spider with her eggs, which he saw deposited.

pupils was stated to be the American silkworm moth, while the large, green swallow tailed moth, collected by another pupil, was identified as the Luna moth, one of our finest species of which several specimens had been secured during the day.

In reply to several questions about the currant worm, Mr. Putnam stated that recently there had been brought to the Museum of the Peabody Academy six different larvæ that were more or less injurious to the currant. One was believed to be an imported species, and was far more destructive than the old currant worm (*Abraxas ribe-aria*) which is of the measuring worm family, while the imported species is the larvæ of a saw fly. The currant borer he mentioned as being quite injurious by its destruction of the wood, but all were as naught when compared with the new pest. Mr. Putnam also called attention to the singular pruning of the top twigs of the bushes, and stated that while this seemed to be the work of some minute cut worm, he had not yet been able to discover the insect. He thought the pruning was not injurious to the bushes, but was in reality a natural process of "nipping," and so long as the insect kept to its present habits we need not feel alarmed at this addition to our stock of currant bush insects.

Mr. A. HYATT of the Institute opened his remarks by alluding to the fact that he had already spoken before the larger part of his present audience upon the Surface Geology of this section, and therefore would speak to-day of a matter of more general interest, the discovery of the Eozoön in Essex County.

He then gave an account of its structure and the structure of the other Foraminifera now living at great depths, forming by their abundance the floor of the present ocean bottom.

The speaker also remarked how much Dr. T. Sterry Hunt and the Canadian Geological Survey, had done for the elucidation of the Geology of the county, and ended by summing up the results of the discovery of the Eozoön.

By request, Dr. A. S. PACKARD, Jr., has furnished the following account of the Currant Saw Fly:

This saw fly, which is a net-veined insect, with clear wings, and belongs to the same group of insects (Hymenoptera) that the bee, wasp and ichneumon fly do, has proved even more destructive to currant bushes than the well known looper, geometer, or measuring worm, which transforms into a yellowish moth (*Abraxas ribe-aria*) found flying about gooseberry and currant bushes in July.

Imported into nurseries at Rochester, N. Y., during the year 1860. it spread into Eastern Massachusetts about five years since, I am told by Mr. F. G. Sanborn, and for two seasons past has been very destructive in gardens in Essex County.

The following account of its habits is quoted from the *Guide to the Study of Insects*:—"There are fifty species of *Nematus* in this country, of which the most injurious one, the gooseberry sawfly, has

Fig. 1.



been brought from Europe. This is the *N. ventricosus* of Klug, which was undoubtedly imported into this country about the year 1860, spreading mostly from Rochester, N. Y., where there are extensive nurseries. Prof. Winchell, who has studied this insect in Ann Arbor, Mich., where it has been very destructive, observed the female on the 16th of June, while depositing her cylindrical, whitish and transparent eggs, in regular rows along the under side of the veins of the leaves, at the rate of about one in forty-five seconds. The embryo escapes from the egg in four days. It feeds, moults and burrows into the ground within a period of eight days. It remains thirteen days in the ground, being most of the time in the pupa state, while the fly lives nine days. The first brood of worms appeared May 21st; the second brood June 25th. Winchell describes the larva as being pale-green, with the head, tail and feet black, with numerous black spots regularly arranged around the body, from which arise two or more hairs. Figure 1: 1, shows the eggs deposited along the under side of the midribs of the leaf; 2, the holes bored by the very young larvæ; and 3, those eaten by the larger worms.

Fig. 2.



"In transporting gooseberry and currant bushes. Walsh recommends that the roots be carefully cleansed of dirt, so that the cocoons may not be carried about from one garden to another. The leaves of the bushes should be examined during the last week of May, and as only a few leaves are affected at first, these can be detected by the presence of the eggs and the little round holes in them, and should be plucked off and burnt. The female saw fly is bright honey-yellow, with the head black, but yellow below the insertion of the antennæ. The male differs in its black thorax, and the antennæ are paler reddish than in the female."

The dates given above of the times of appearance of the two broods will apply to this state.

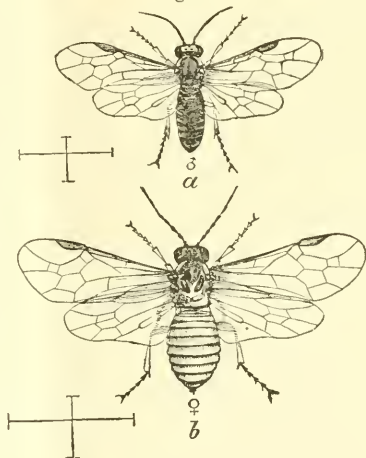
The natural enemies of this pest are three ichneumon flies, one of which is a minute egg-parasite. Mr. Lintner of New York, stating that among fifty eggs only four or five hatched out the currant worm.

One of the best remedies, next to hand-picking, is dusting powered white hellebore over the bushes, by sprinkling it from a muslin bag tied to a stick, as it otherwise excites violent sneezing. Used in this small quantity it is not poisonous. Dr. Mack tells me that he has used a solution of a pound of copperas to six gallons of water with much success. It blackens the leaves, but does not injure them permanently.

By steady and combined effort this terrible pest, together with the currant looper or geometer, *Abraxas ribearia*, can be kept under. Birds and fowl do not apparently feed on this worm, as our feathered friends have their antipathies to certain articles of worm diet, hence we must fight them with fingers and drugs.

Fig. 1, represents a leaf with the eggs (1) of the sawfly laid along the mid ribs, and the holes (2, 3) made by the young larvæ at different stages of growth. Fig. 2 represents the larvæ still further advanced, with an enlarged view of one of the segments (*b*). The male (*a*) is figured on the third cut, together with the female (*b*); the crossed lines representing the actual length of body and spread of wings. Figs. 2 and 3 are taken from the *American Entomologist*, Vol. 2, No. 2, where a full account of this insect may be found.

Fig. 3.



THE PARTY which had devoted the forenoon to an examination of the town records made a report of their investigations. The following items from these records were specified. A Record book of ear marks from 1721 to 1810, quite a curiosity in its way, presenting many ingenious devices for cropping and cutting the ears of cattle, sheep, etc. Thus, — 1723, Ezra Rolfs mark, a crop of neer eare and a slit in the crop and a nick the under side of the eare. Jan. 31, 1723-4 Hew Smith's mark, a half peny the under side of the neer eare. Oct. 15, 1725, Jona. Kimball's mark, a swallow's tale in the neer eare and a half peny under the same eare.

There are also in the same book two publications of intention of marriage, viz : —

“This may certifie whome it may conseru that Isaac Hardy and Esther Barker both of Bradford was published according to Law and have stood en [tered] fifteen days. Dated in Bradford the 5 of Aprill []. Bradford Aprill the 25, 1727. This may sertifie whome it may conserne that John Perker of Bradford, and Elizabeth Middleton of Boxford, ware published and stood posted fiveteen days according to Law.

Attest

RICHARD BAILEY, *Town Clerk.*

Town Records, Vol. I, 20, 3, 1668 to March 22, 1742: vol. II, 1742 to 1787; Vol. III, 1787 to 1838.

East Parish (now Groveland) Record 1722 to 1813.

Town Treasurer's Book 1734-1800.

West Parish Records 1738-1852.

Book of Births, Marriages and Deaths 1670-1793.

“1676 Thos. Kimball was shot by an Indian ye 3d of May, 1676 — and his wife and 5 children, viz: Joannah, Thomas, Joseph, Priscilla and John were carried captive.” “The wife and children of Thomas Kimball that ware taken by ye Intlians when he was slain returned home ye 13th of June, 1676.”

MR. JAMES H. EMERTON, of Salem, spoke of the Insects captured during the excursion.

Hon. HENRY CARTER, of Haverhill, occupied a few moments in offering some congratulatory remarks, expressing his pleasure upon the exercises of the occasion.

E. N. WALTON, of Salem, offered the following resolution which was unanimously adopted.

Resolved, That the grateful thanks of the Essex Institute be tendered to the Local Committee of Arrangements and Reception; the teachers of the Bradford Academy and the Public Schools, and other ladies and gentlemen who have contributed to the interest and pleasure of the present meeting.

[*To be continued.*]

BULLETIN

OF THE

ESSEX INSTITUTE.

VOL. 2.

SALEM, MASS., JULY, 1870.

No. 7.

One Dollar a Year in Advance. 10 Cents a Single Copy.

"DARK LANE," WITH ALLUSIONS TO OTHER LOCALITIES OF WILD PLANTS IN SALEM.

BY GEO. D. PHIPPEN.

"And lest the reader should too often languish with frustrate desire to find some plant he needeth of rare vertue. he spareth not to tell in what wood, pasture, or ditch, the same may be seene and gathered."—GIRARD.

It has been justly noticed that the enthusiasm of the youthful founders of this institution, under its primitive name of the Essex County Natural History Society, found zealous occupation in sustaining its floral exhibitions, held every summer for several years, and at first as often as weekly, at every recurrence of which, one or more stands were devoted exclusively to the exhibition of wild flowers.

The ease with which at that time, some thirty-five years since, a large collection of native plants could be gathered, including many of the rarer sorts, in the short space of an afternoon ramble, and that not necessarily out of the territory of the city, would, we think, somewhat surprise a frequenter of the field meetings of the

present day, when contrasted with the paucity sometimes manifested at collections brought in at some of these meetings, even when conducted by committees of considerable size. Since that time much waste and unoccupied land, then quite wild and neglected and seldom visited by its owners, has been enclosed and built upon; woods have been cleared, new roads made, or old ones straightened and widened, and the ancient rude stone walls, under and around which nestled many a rare plant, have given place to more modern structures of wall, fence, or neatly trimmed hedge.

The custom of laying out extensive suburban residences has rapidly increased, until at the present day the fear of trespassing upon private property keeps the investigations of the botanical student longer in the highway, and forces him to travel a far greater distance than formerly, to find the choicer gifts of flora in her favorite haunts.

This is, perhaps, more than compensated by the ease with which distant points are readily gained, and a much larger circuit surveyed, by availing one's self of the rapid conveyance which the radiating lines of railroad now afford.

We are confident from the botanical experience of many years in the county and other parts of the State, and of New England, that the territory of Salem was formerly remarkable for its numerous and peculiar localities of wild shrubs and plants, which fact has had many an attestation from strangers who have visited us. Many plants now justly esteemed rare could then be readily obtained by an early morning walk before the labors of the day began.

Some of these localities were as follows: The vicinity of "Castle Hill," where flourished fine specimens of the

Shad Bush and Cockspur Thorn, two species of yellow *Gerardia*, purple *Lespedeza*, *Uvularia*, Cow Parsnip and *Alisma Plantago*.

Farther on at "Legg's Hill," with its neighboring coppices, ponds and runs of water, where among various forms of ferns, sedges and equisetum could be found the *Sarracenia* with its peculiar flowers and more remarkable leaves; the Dogtooth Violet, "the yellow bastard Daffodil with spotted leaves" of the pioneer Josselyn, that rare tree the *Laurus benzoin*, *Caltha*, *Lythrum*, *Eupatorium perfoliatum*, *Vicia cracca*, *Calla*, *Acorus*, *Arun*, and our only parasite, *Cuscuta*, with its golden threads and diminutive waxen bells.

"Great Pasture," a wide and varied territory of rocky wastes, shady water courses and meadow lands, where may still be found many of the plants above named, also *Sassafras*, species of *Sumach*, *Pyrus*, *Prunus*, and other trees, *Ericaceous* shrubs in abundance, as species of *Vaccinium*, *Andromeda*, *Azalea* and *Kalmia*; while *Cypripedium*, *Bloodroot*, *Bellworts*, *Medeola* and *Convallaria*, are a few of the many species to be found in its woods. In its low grounds two species of *Lily*, two species of *Lobelia* and *Orchis*, *Arethusa*, *Cymbidium*, *Rhexia*, *Hottonia*, and others.

"Columbine Hill," in the Great Pasture, is the same to-day as when Spencer, long absent but not forgotten, wrote that its direction from town might be traced by the scarlet nectaries of the *Columbine* strewn in the way by the numerous boys returning on "lecture day," with hands well filled with its showy bells.

"Salem Neck" also had its peculiar flora, *Cakile*, *Statice*, *Datura*, *Archangelica*, Marsh Pea and *Solidago sempervirens*, the noblest of all the golden rods; also obscure species of the pink tribe and others, without allud-

ing to marine plants that grow within the wash of the sea. A remarkable specimen of the shrubby and rare form of *Rhus Toxicodendron* or poison ivy, may still be seen at Juniper, among rocks jutting over the sea; its usual form being that of a slender rambling vine.

"North Salem," however, with its numerous fields and old stone walls, stretching toward "Danvers" that was, on the one side, and on the other with points and bays bordering the sea, in its variety of surface and of soil, was richer in wild plants than any other section of the suburbs.

"Cole's Hole and Barr's Pasture," furnished *Uvularia*, *Arum*, and *Geum rivale*, two *Osmundas*, and other ferns.

"Paradise," including Harmony Grove, not then devoted to its present sacred use, abounded in *Columbines*, *Ranunculus* and *Violets*, two species of *Geranium*, *Genista tinctora* of the Puritan dyer's memory, *Silene inflata*, *Dianthus armeria*, our only American pink, and that perhaps a strayling from Europe; also many other plants, and some quite rare. "Orne's Point, Cold Spring and vicinity," before Kernwood was appropriated, had climbing over its old walls, *Clematis*, Bitter-sweet, Thornless *Smilax*, Roxbury waxwork, Native Grapes and other vines, while scattered over its surface could be found *Comandra*, *Ceanothus*, species of *Polygala*, *Sanicula*, Marsh Pea, Wild Onion, *Erigeron Philadelphicum*, species of *Convallaria*, *Gerardia flava*, *Gentiana saponaria*, *Corydalis glauca*, *Veratrum viride* and *Erythronium Americanum*.

But no limited locality of the neighborhood at all compared with that portion of "North Fields" known as "Dark Lane," which extended from the corner of what is now School and Grove streets, to Central street in Peabody, and which several years since was straightened,

and graded into the present wide avenue, known as Tremont street, so that now scarcely a vestige remains of its former shrubby and umbrageous growth; even its once expressive name may soon be lost unless perpetuated by this institution, whose trust it is to guard and preserve our local history, whether territorial, social, or in whatever sense the same may be insigial. So prolific in shrubs and plants were the borders of this way that it is not too much to say that a careful description of the different species there found would make a respectable botanical work, embracing as it did a fair portion of the flora of New England.

When first remembered by the writer there hung around its sombre name a vague regret of traditional derivation, that its deepest shades and choicest recesses, homes of the rarer floral congeners, had in a degree already departed; sire and matron of the olden time told a like story of its shady borders and abundant floral productions. This narrow lane was formerly undoubtedly bordered with trees of native growth, whose interlacing branches once shut out the sun, and suggested the appropriate name it so long bore. At the time of which we write the trees had nearly all disappeared, with the exception of an occasional Locust or Wild Cherry, while in their stead grew a wide and exuberant hedge of overhanging shrubbery, which so crowded upon the narrow cart-way that with vain regrets we often witnessed the cropping of its margin by the neighboring farmers, to save its wasting effect upon loads of hay carted through from contiguous grounds.

This deep hedge of shrubbery, tangling vines and tall herbaceous plants, grew on either side for many a rod of the way, quite up to the single line of cart ruts made in the centre, extending also in many places as far beyond

the stone walls into the adjoining fields, and was composed of different species of Cornels, Viburnums, Spiræas, Sumacs, Prunus, Pyrus, Barberry, Clethra; also Sweet Briar, and other wild roses, and here and there festooned with Clematis, Apios, Celastrus, Smilax, Bitter-sweet, Grape, and other vines; while from the damp and rich soil along the walls, under their shadow and in more vacant spaces among the shrubbery, grew in rich profusion many species of both lowly and lofty herbaceous plants, flowering in successive order, from the Hens-tonias and Violets of early spring, to the Yarrow and other composites that linger to welcome the falling snow.

Some of these shrubs and plants, of which we have many pressed specimens, gathered there more than thirty years since, to which are attached descriptive tags of locality, etc., are given below, together with others that exist most graphically in the memory, both as to specific form and exact spot of growth, as though we could return once more and pluck them again from their ample stems.

OF SHRUBS AND LOW TREES WERE

<i>Cornus circinata.</i>	<i>Rhus glabra.</i>
<i>Cornus stolonifera.</i>	<i>Rhus vernix.</i>
<i>Cornus paniculata.</i>	<i>Myrica cerifera.</i>
<i>Corylus Americana.</i>	<i>Comptonia asplenifolia.</i>
<i>Viburnum Lentago.</i>	<i>Andromeda paniculata.</i>
<i>Viburnum dentatum.</i>	<i>Andromeda ligustrina.</i>
<i>Viburnum pyriform.</i>	<i>Alnus serrulata.</i>
<i>Cephalanthus occidentalis.</i>	<i>Salix eriocephala.</i>
<i>Clethra alnifolia.</i>	<i>Robinia pseudacacia.</i>
<i>Berberis vulgaris.</i>	<i>Prunus Virginiana.</i>
<i>Rosa Carolina.</i>	<i>Prunus serotina.</i>
<i>Rosa rubiginosa.</i>	<i>Crataegus Crus-galli.</i>
<i>Rosa lucida.</i>	<i>Spiræa opulifolia.</i>
<i>Rubus odoratus.</i>	<i>Spiræa salicifolia.</i>
<i>Rubus strigosus.</i>	<i>Spiræa tomentosa.</i>
<i>Rubus villosus.</i>	Species of <i>Prunus</i> and <i>Pyrus</i> .

OF VINES.

<i>Clematis Virginiana.</i>	<i>Solanum dulcamara.</i>
<i>Vitis Labrusc.</i>	<i>Smilax rotundifolia.</i>
<i>Celastrus scandens.</i>	<i>Rhus Toxicodendron.</i>
<i>Apios tuberosa.</i>	

OF HERBACEOUS PLANTS OF THE COARSER SORT.

<i>Phytolacca decandra.</i>	<i>Ambrosia artemisiifolia.</i>
<i>Leonurus Cardiaca.</i>	<i>Asclepias Cornuti.</i>
<i>Nepeta Cattaria.</i>	<i>Asclepias pulchra.</i>
<i>Urtica gracilis.</i>	<i>Verbascum Thapsus.</i>
<i>Urtica dioica.</i>	<i>Erigeron sp.</i>
<i>Sonchus arvensis.</i>	<i>Aster Novæ Angliæ.</i>
<i>Lactuca elongata.</i>	<i>Aster corymbosus.</i>
<i>Nabalus albus.</i>	<i>Aster Radula.</i>
<i>Inula Helenium.</i>	<i>Aster lævis.</i>
<i>Chelone glabra.</i>	<i>Aster simplex.</i>
<i>Eupatorium purpureum.</i>	<i>Aster longifolius.</i>
<i>Eupatorium perfoliatum.</i>	<i>Aster cordifolius.</i>
<i>Verbena hastata.</i>	<i>Diplopappus linariifolius.</i>
<i>Verbena urticifolia.</i>	<i>Diplopappus umbellatus.</i>
<i>Oenothera biennis.</i>	<i>Solidago bicolor.</i>
<i>Epilobium angustifolium.</i>	<i>Solidago cæsia.</i>
<i>Epilobium lineare.</i>	<i>Solidago stricta.</i>
<i>Baptisia tinctoria.</i>	<i>Solidago neglecta.</i>
<i>Rudbeckia laciniata.</i>	<i>Solidago odora.</i>
<i>Helianthus divaricatus.</i>	<i>Solidago Canadensis.</i>
<i>Tauacetum vulgare.</i>	<i>Solidago lanceolata.</i>

HERBACEOUS PLANTS OF MORE HUMBLE GROWTH.

<i>Impatiens fulva.</i>	<i>Polygonum hydropiperoides.</i>
<i>Galium asprellum.</i>	<i>Centaurea nigra.</i>
<i>Galium trifidum.</i>	<i>Maruta and Achillea.</i>
<i>Liatris scariosa.</i>	<i>Arum triphyllum.</i>
<i>Campanula glomerata.</i>	<i>Trillium cernuum.</i>
<i>Lysimachia stricta.</i>	<i>Xyris bulbosa.</i>
<i>Lysimachia quadrifolia.</i>	<i>Linaria Canadensis.</i>
<i>Convallaria racemosa.</i>	<i>Linaria vulgaris.</i>
<i>Uvularia sessilifolia.</i>	<i>Pedicularis Canadensis.</i>
<i>Uvularia perfoliata.</i>	<i>Osmunda regalis.</i>
<i>Ranunculus sp.</i>	<i>Osmunda cinnamomea.</i>
<i>Aquilegia Canadensis.</i>	<i>Gentiana Andrewsii.</i>
<i>Hypericum perforatum.</i>	<i>Saxifraga vernalis.</i>
<i>Anemone nemorosa.</i>	<i>Thalictrum dioicum.</i>
<i>Anemone Virginiana.</i>	<i>Thalictrum anemonoides.</i>
<i>Hypoxis erecta.</i>	<i>Lilium Canadense.</i>
<i>Houstonia cerulea.</i>	<i>Gerardia flava.</i>
<i>Hepatica triloba.</i>	<i>Gerardia purpurea.</i>
<i>Agrimonia Eupatoria.</i>	<i>Geum rivale.</i>
<i>Viola rotundifolia.</i>	<i>Geranium maculatum.</i>
<i>Viola pubescens.</i>	<i>Geranium Robertianum.</i>
<i>Cistus Canadensis.</i>	<i>Aralia trifolia.</i>
<i>Antennaria margaritacea.</i>	<i>Apocynum androsæmifolium.</i>
<i>Antennaria plantaginifolia.</i>	<i>Polygala sanguinea.</i>
<i>Gnaphalium polycephalum.</i>	<i>Equisetum arvense.</i>
<i>Polygonum sagittatum.</i>	<i>Cuscuta Americana.</i>
<i>Polygonum Persicaria.</i>	

Most of these plants grew in great profusion, and not as scattered specimens. So true was this of the shrubs and coarser herbaceous plants that on several occasions entire arbors were built of them in years long past at autumnal exhibitions of this institution.

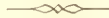
Clematis and Apios could be gathered in wreathing festoons of flowers, and large quantities of the colored

fruits, of species of *Cornus*, *Viburnum*, *Crataegus*, and *Sambucus* in their season, added not a little to the display. Of the above plants, once so common in Dark Lane but now lost from the suburbs, or yearly growing more distant, may be mentioned

Campanula glomerata.
Centaurea nigra.
Xyris bulbosa.
 Species of Bellworts and of
 Solomon's seal.
Trillium cernuum,

Gentiana Andrewsii,
Geum rivale,
 Sp. of *Galium*,
 Sp. of *Orchis*,
Rhus venenata.
Apios tuberosa, and others.

The foregoing list of plants of this remarkable locality, is very imperfect and could be much increased by mentioning the naturalized and more common plants which were also abundant. If, however, we have maintained the claim so justly due this noted locality, we shall not have given these facts in vain, and therefore close this article by expressing the wish that the more recent disciples and amateurs of this interesting science, would note down and preserve in durable form, the plants that still occupy the individual localities that remain to us undisturbed, in the suburbs of our city.



FIELD MEETING AT BRADFORD.

(Continued from p. 96.)

THE time having been entirely occupied by the speakers already mentioned, there was no opportunity for the botanists to present their collections of rarities, which was much regretted by all. Mr. George D. Phippen has kindly presented the following report of his forenoon's excursion.

The botanical party, who dispensed with carriages, probably bore more of the heat and burden of the day than any other of the several extempore organizations, in their three or four mile tramp of meadow and woodland, finished off by skirting a portion of the banks of the Merrimac River. Among the forms met with and collected there seemed to be an unusual absence of Ericaceous plants; no *Kalmias*, *Vacciniums*, *Andromedas* or *Pyrolas* were brought in, and but a speci-

men or two of the *Azalca viscosa*; though a few others may have been passed on the route. Very fine specimens of *Pogonia ophioglossoides*, remarkable for its delicate and peculiar fragrance were collected, also an *Orchis* or two, alike denizens of the bog.

Numerous blossoms of the starry *Hypoxis* twinkled low among the thin shrubbery; interesting to the botanist, but to the superficial observer scarce distinguishable from a *Potentilla* or *Ranunculus*, genera peculiarly abundant at this time. In the low lands where the party, including several ladies, all damped their feet, were fine plants of *Geum rivale* and *Saxifraga Pennsylvanica* just passing out of flower; also the obtrusive Green Hellebore with its large plaited leaves and abundant green flowers. To a majority of our party the most novel plant seen was a brilliant patch of *Castilleja coccinea* or painted cup, though not considered uncommon is yet rare in the vicinity of Salem.

The great heat of the day, and the hour high noon, rather deadened the usual and peculiar zeal of collectors. The last object of interest remembered being the *Betula lenta*, or black birch tree, whose branches overhung the river's bank. A hasty glance at the grounds of the residents as we listlessly passed to the shaded seats and welcome tables, provided upon the Common, demonstrated a refined taste. Among the trees and shrubs were noticed the *Magnolia tripetala* and other rare shrubs and plants.

As there was no opportunity given the botanical party to report, and as the collected flowers before the meeting closed had become limp and undistinguishable, we must guess at what they might have said.

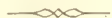
The meeting then took a recess to enable the members and their friends to visit the building.

Bradford Academy is the oldest seminary for young ladies in the State. Founded in 1803, and incorporated in 1804, it has been in operation ever since. A new building has just been erected for the use of the school, bringing the boarding and school departments under the same roof. This new building is delightfully situated in the centre of an area of about twelve acres of land. The location is elevated and commands a large extent of country on every side, giving fresh invigorating air, with unsurpassed beauty of prospect. The healthfulness of this location has been abundantly proved during the past years of the school. The structure is in the form of a cross, four stories high, and is built of brick, with underpinnings and facings of granite. Corridors run through the building from east to west, a distance of two hundred and sixteen feet, affording delightful and healthful promenades when inclement weather forbids exercise out of doors. A parlor and two bedrooms constitute a suite of rooms for four pu-

pils. These rooms are twelve and eleven feet high, newly furnished, and receive a full supply of pure air and sunlight. The school halls, recitation rooms, parlors, rooms for business, bathing rooms and closets, are all on a most generous scale, whether for convenience, health or comfort. The entire building is heated by steam, and lighted by gas. No effort or expense has been spared to make this a model establishment.

After going over the building the party again met in the Hall and listened to some elocutionary exercises conducted in fine style, showing great proficiency on the part of the pupils and efficiency on the part of the teachers. The meeting then adjourned.

At 5 o'clock the visitors took the train for home, much delighted with their visit and the hospitable manner in which they were welcomed by the citizens of Bradford.



FIELD MEETING AT SWAMPSCOTT. WEDNESDAY, JULY 21, 1870.

The second field meeting, the present season, was held at Swampscott this day.

The morning was not auspicious for a large attendance, the sky being overcast by clouds, which, however, disappeared as the day advanced, and the later trains brought a large addition, so that the afternoon session was fully attended.

After leaving the baskets at the Town Hall, which was the place of rendezvous for the day, all were quickly dispersed about the town; some went to the woods, and roamed over the forest hills and dales in search of wild flowers and rare specimens of plants; others to the seashore, and sought the shells and other wonders from the briny deep. Those who had an eye to the beauties of art took a quiet walk through the streets and admired the beautiful suburban residences and neat cottages embowered in ivy and other vines.

At 1 P. M. the various parties returned to the Hall, where the baskets had been stored for the collation. At 3 P. M. the session for discussion, etc., was held, the President in the chair.

The records of preceding meeting read.

The following correspondence was announced by the Secretary:

From American Antiquarian Society, Worcester, June 19; Aiken, William E. A., Baltimore, Md., June 25; Arnold, George, Boston, July 5; Bronson Library, Waterbury, Conn., June 28; Barton, E. M., Worcester, July 1; Boyd, W. H., Washington, D. C., June 12, 16, 27, July 2, 12; Buffalo Historical Society, June 16, July 11; Challen, Howard, Philadelphia, July 1; Cook, George H., New Brunswick, N. J., June 27; Duncan, M. W., Haverhill, June 27; Greene, S. A., Boston,

June 23; Harlman, W. H., Louisville, Ky., June 22; Historical and Philosophical Society, Cincinnati, Ohio, June 21, 27; How, Joseph, Methuen, July 8; Hilsley, F. J., Newark, N. J., June 25; Lunt, William P., Boston, July 11; Morris, Robert, Chicago, Illinois, July —; Moravian Historical Society, Bethlehem, June 19; Niven, James, Sangus, July 8; New England Historic-Genealogical Society, Boston, June 16, July 9; New York Historical Society, New York City, June 16, July 9; Ohio Mechanics Institute, Cincinnati, O., June 16; Phippen, George D., Salem, June 16; Public Library, Boston, June 24; Preble, George H., Mare Island, June 21; Rhode Island Historical Society, Providence, R. I.; Smithsonian Institute, Washington, D. C., July 20; Thompson, Waldo, Lynn, July 13; Tracy, C. M., Lynn, July 6, 8, 18; Upham, W. P., Providence, R. I., July 18; Vincent, Frances, Wilmington, Delaware, June 28.

The Librarian reported the following additions :

By Donation.

ADDITION TO DIRECTORIES. Washington and Georgetown, 1834-'70, 18 vols. Svo. Baltimore City, 1 vol. Svo. Richmond and Fifty Counties of Virginia, 1 vol. Svo. Cleveland, 3 vols. Svo. Susquehanna Railroad, 1 vol. Svo. Trenton, 2 vols. Svo. Columbus, 1 vol. Svo. Atlanta, 1 vol. 12mo. Paterson, 2 vols. Svo. Boyd's Business, 2 vols. Svo. Jersey City, 3 vols. Svo. Newark Business, 2 vols. Svo. New Jersey State, 1 vol. Svo. Camden, 1 vol. Svo. U. S. Druggists, 1 vol. 12mo. Merchants and Bankers, 1 vol. Svo. Boston and Albany Railway, 1 vol. Svo. Northern Railroad Business, 1 vol. Svo. New York State Business, 1 vol. Svo. New York City, 3 vols. Svo. Poughkeepsie, 2 vols. Svo. Oneida County, 1 vol. Svo. Syracuse, 1 vol. Svo. Auburn, 1 vol. Svo. Elmira, 1 vol. Svo. Binghamton, 2 vols. Svo. Syracuse and Onondaga County, 1 vol. Svo. Rome, 2 vols. Svo. Schenectady, 1 vol. 12mo. Saratoga, 1 vol. Svo. Brooklyn Business, 1 vol. 12mo. Wilmington, 2 vols. Svo. Delaware State, 1 vol. Svo. Indianapolis, 7 vols. Svo. Chicago, 2 vols. Svo. Milwaukee, 2 vols. Svo. New Orleans, 3 vols. Svo. National Calendar, 2 vols. 12mo. Bridgeport, 1 vol. 12mo. Norwich, 1 vol. Svo. Hartford, 1 vol. Svo. Philadelphia, 18 vols. Svo. Philadelphia Business, 1 vol. Svo. Pittsburgh and Allegheny, 1 vol. Svo. Lancaster, 1 vol. Svo. Harrisburg, 1 vol. Svo. Williamsport and Lock Haven, 1 vol. Svo. Erie, 1 vol. Svo. Louisville, 1 vol. Svo. Railway Business, 1 vol. Svo. Kentucky State Gazetteer and Business, 1 vol. Svo.

BUTLER, BENJAMIN F., M. C. Causes of the Reduction of American Tonnage. Chandler's Speech in U. S. S. on "Proposed Annexation of Winnipeg. Hoar's Speech in U. S. H. R., on "Universal Education." Butler's Speech in U. S. H. R., on "Independence of Cuba." Ambler's Speech in U. S. H. R., on "Belligerent Rights of Cuba." Monthly Report on Agriculture for May and June, 1870. Butler's Address at Woodstock, Conn., on "Suggestions of the Effect of an Imported Laboring Class upon American Institutions."

BELLEVUE HOSPITAL, MEDICAL COLLEGE. Annual Circular and Catalogue, 1870-'71.

COGSWELL, GEORGE, of Bradford. A Memorial of Bradford Academy, 1 vol. Svo. Boston, 1870.

COLE, MRS. NANCY D. Monthly Journal American Unitarian Association for June, 1869.

DUNCAN, MRS. M. W., of Haverhill. In Memoriam, James H. Duncan, 1 vol. 4to, Cambridge.

FARNUM, JOSEPH. White's Dental Catalogue, 1867. 1 vol. Svo.

GAFFIELD, THOMAS, of Boston. Waterston's Address on the Life and Character of Thomas Sherwin. 1 vol. Svo. Boston, 1870.

GREEN, SAMUEL A., of Boston. Miscellaneous pamphlets, 28.

HOWARD, J. J. *Miscellanea Genealogica et Heraldica*. April, 1870.

HSLEY, FERDINAND I. of Newark, N. J. *Augusta City Directory*, 1 vol. 8vo. *Newark Directories*, 5 vols. 8vo. *St. Paul Directory*, 1 vol. 8vo. *New Orleans Directory*, 2 vols. 8vo. *Portland, Oregon, Directory*, 1 vol. 8vo. *Mobile Directory*, 3 vols. 8vo. *Austin Directory*, 1 vol. 8vo. *Richmond Directory*, 1 vol. 8vo. *Memphis Directory*, 1 vol. 8vo. *New Haven Directory*, 1 vol. 8vo. *Virginia City, Gold Hill, Silver and American City Directory*, 1 vol. 8vo.

JAMES, THOMAS P., of Philadelphia. *Proceedings of American Pomological Society for 1864 and 1867*.

LEE, JOHN C. *Commercial Bulletin for June, 1870*.

MUNSELL, JOEL, of Albany, N. Y. *Miscellaneous pamphlets*, 13.

PALFRAT, C. W. *Anderson's Memorial Address at Antietam National Cemetery*, May 30, 1870.

PARSONS, C. W., of Providence, R. I. *Miscellaneous pamphlets*, 22.

RHODE ISLAND HISTORICAL SOCIETY. *Rhode Island Colonial Records, 1776-'83*, 2 vols. 8vo. *Miscellaneous pamphlets*, 86.

RHODES, EDWARD S., of Providence, R. I. *City Documents*, 45 pamphlets.

SNOW, MISS M. P. *Forty-seven volumes of School Books*.

STICKNEY, M. A. *Seven Miscellaneous volumes*.

SNOW, E. M., of Providence, R. I. *Miscellaneous pamphlets*, 13.

SUMNER, Hon. CHARLES, U. S. S. *Navy Register of the U. S. for 1870*. *Official Army Register for 1870*. *Butler's Speech in U. S. H. R. June 3, 1870, on "Internal Tax."* *Commerce and Navigation, 1868-'69*, 2 vols. 8vo. *Finance Report, 1869*, 1 vol. 8vo. *Report on Retrenchment, 1870*, 1 vol. 8vo. *Report on Heavy Ordnance, 1869*, 1 vol. 8vo. *U. S. Geological Survey of Colorado and New Mexico, 1869*, 1 vol. 8vo. *Sumner's Speech in U. S. S. June 10, 1870, on "Abolition of Franking."* *Paris Expedition*. *Report on Weights, Measures and Coins, 1867*. *Scott's Speech in U. S. S. June 22, 23, 1870, on "Income Tax."* *Monthly Report of Agriculture for May and June, 1870*. *Congressional Directory, 2d Session 41st Congress of U. S. A.*

THORNTON, J. WINGATE, of Boston. *Sprague's Discourse Commemorate of Rev. Wm. Allen*, 8vo pamph., Albany, 1868.

TURNER, ALFRED S., of Boston. *Boston Municipal Register, 1870*, 1 vol. 8vo. *Boston, 1870*. *Auditor's Report of Boston and County of Suffolk for 1868-9*, 1 vol. 8vo. *Boston, 1869*.

UPHAM, J. BAXTER, of Boston. *Boston Medical and Surgical Journal*, 8 Nos. *Miscellaneous pamphlets*, 90.

UPTON, JAMES. *Harper's Family Library, Vol. 1-157, 157 vols. 12mo*, New York, 1837-1842.

WALTON, E. N. *Minutes of the Boston North Baptist Association, 1869*. 8vo pamph., Boston.

U. S. WAR DEPARTMENT. *Letters from the South, relating to the Condition of the Freedmen*, 8vo pamph., 1870.

WATERS, H. FITZ. *Miscellaneous pamphlets*, 60.

WHEATLAND, M. G. *Miscellaneous vols. 81*. *Miscellaneous pamphlets*, 286.

WILDER, MARSHALL P., of Dorchester. *Sheppard's Memoir of M. P. Wilder*, pamph. Boston, 1867. *Past and Present*, 8vo pamph., Boston, 1870.

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ALBANY INSTITUTE. *Manual*, March, 1870, 8vo pamph.

BIBLIOTHEQUE UNIVERSELLE ET REVUE SUISSE. *Archives des Sciences Physiques et Naturelles*, No. 149, Mai 15, 1870, 8vo pamph., Genève, 1870.

BOSTON PUBLIC LIBRARY. *Bulletin for June, 1870*.

FIRE LANDS HISTORICAL SOCIETY. *The Fire Lands Pioneer for June, 1870*.

K. K. ZOOLOGISCHE-BOTANISCHE GESELLSCHAFT. Verhandlungen der, Jahrg. 1869, 8vo pamph., Wien. 1869. Commelinaceæ Indicae, Imprimis Archipelagi Indici, adjectis nonnullis hisce terris alienis auctore Carolo Hasskall, 8vo pamph., Vindobonæ, 1870.

MASSACHUSETTS HISTORICAL SOCIETY. Catalogue of the Private Library of Thomas Dowse, 8vo pamph., Boston, 1870.

MERCANTILE LIBRARY ASSOCIATION. Forty-ninth Annual Report of the Board of Directors. 8vo pamph., New York, 1870.

MUSEUM OF COMPARATIVE ZOOLOGY. Annual Report of the Trustees, 1869.

NATURWISSENSCHAFTLICHEN VEREINE ZU BREMEN. Abhandlungen her aus gegeben, 8vo pamph., Bremen, 1870.

NATURWISSENSCHAFTLICHER VEREIN FÜR SACHSEN UND THURINGEN. Zeitschrift für die gesammten Naturwissenschaften Jahrg, 1869, 2 pamph. 8vo, Berlin.

NEW ENGLAND HISTORIC-GENEALOGICAL SOCIETY. The New England Historical and Genealogical Register. July, 1870.

NEW YORK LYCEUM OF NATURAL HISTORY. Annals. Vol. ix. sigs. 21, 22.

OHIO MECHANICS' INSTITUTE. Forty-second Annual Report of Directors.

PEABODY INSTITUTE, Baltimore, Md. Mr. Peabody's Letter of September, 1869. Third Annual Report of the Provost. 1870, 8vo pamph.

PHILADELPHIA ACADEMY OF NATURAL SCIENCES. Proceedings, January and April, 1870.

PUBLISHERS. American Journal of Science. American Literary Gazette. American Naturalist. Book Buyer. Christian World. Cosmos. Eclectic. Essex Banner. Gardner's Monthly. Gloucester Telegraph. Haverhill Gazette. Historical Magazine. Journal de Conchyliologie. Lawrence American. L' Investigateur. Lippincott's Monthly Bulletin. Land and Water. Little Giant. Lynn Reporter. Medical and Surgical Reporter. Nation. Nature. Pavillion. Peabody Press. Semi-Monthly Visitor. Sotheran's Catalogue. The Tocsin.

SMITHSONIAN INSTITUTION. Smithsonian Contributions to Knowledge. Vol. xvi, 1 vol. 4to, Washington, 1870. Smithsonian Miscellaneous Collections, Vols. viii, ix, 2 vols. 8vo, Washington, 1869.

VEREIN ZUR BEFÖRDERUNG DES GARTENBAUES. Wochenschrift des Vereins zur Beförderung des Gartenbaues in den Königl. Preuss. Staaten für Gärtnerei und Pflanzenkunde, 1869, 52 Nos., 4to pamph.

VEREIN FÜR ERDKUNDE UND VERWANDTE WISSENSCHAFT. Notizblatt des Vereins für Erdkunde und verwandte Wissenschaften zu Darmstadt und des mittelhheinischen geologischen vereins 8vo, pamph., 1869.

The Superintendent of the Museum reported the following additions to the Museums of the Institute and Peabody Academy of Science.

CLEVELAND H. R. Skin of a Toucan. Skulls of Cavea Capybara and Alligators. Portions of Lower Jaw of Mastodon. Seeds, Nuts, etc. From the vicinity of Honda, on the Magdalena Rivers, U. S. A.

COLCORD, MRS. H. M., of Peabody. Insects. Galls, etc., from Peabody.

HARRINGTON, C., of Salem. Collection of Nests of Native Birds.

HOLMES, A., of San Francisco, Cal. Bark, Cones, and Seeds of Sequoia gigantea. Lichens growing on dead wood, and the Nest of Tarantula (Mygale) from California.

JOHNSON, W. C., of Newburyport. White-tailed Remora (Echineis albicauda) taken at Newburyport.

LEBARON, J. F. Several specimens of Plants from Florida.

MUDGE, S. A. Fossil Shells.

NEWCOMB, R. L. A mounted specimen of Larus Smithsonianus from vicinity Salem.

OSGOOD, J. B. F. Specimen of *Sarcodes sanguinea* (Snow Plant) from Lake Tahoe, 6,024 feet above sea-level.

PETERSON, G. W. Young of *Limulus polyphemus* from Salem.

SMITHSONIAN INSTITUTION. Collections of Birds' Eggs from various localities, principally Arctic.

VALENTINE, MISS MARGARET P. Several pieces of Roman Pavement from Bransby, England.

WALKER, SAMUEL L. Specimen of *Rhombus maculatus* from Salem Harbor.

WATERS, W. C., of Boston. Kangaroo from Australia.

The President opened the meeting with a few general remarks upon the history of the place, mentioning that Swampscott in 1852 had a separate organization, having been previously a part of Lynn. The Indian name was *Wannasquomskut*, signifying at the cliff or rock summit, and hence modified into Swampscott. He then invited Rev. James T. Hewes to preside over the discussions of the afternoon—a vote having first been passed, that when this meeting adjourned it adjourn to 4 o'clock to-morrow (Thursday) afternoon, in the rooms at Salem.

Rev. Mr. HEWES was brief in his preliminary remarks, saying that he came here "to learn how to see," and giving utterance, among other things, to the truthful idea that it is not necessary to go away from home to get recreation, instruction, or pleasure.

Mr. F. W. PUTNAM was requested to report on several fishes which had been placed on the table. These he stated were specimens of the Rock Cod and of the Pollock. He said that it was like "bringing coals to Newcastle" to come to Swampscott and talk about Codfish, but still there might be some points in the structure of the fishes now before him that might prove interesting to the meeting, and he would therefore call attention to them. He then gave a general account of the structure of the family of fishes of which the Cod and Pollock were members, stating how it differed from the families of which the Salmon, and Sea Perch, or "Conners," were representatives. In this connection he called attention to the structure and position of the fins in the several orders of fishes, and their value as characters in distinguishing the orders and families. He also spoke of the peculiar modification of the fins of fishes, some serving as aids to the movements of the body in swimming. Some fishes swim entirely by their dorsal fins, others by the pectorals, while in still others the pectorals and ventrals were so modified as to be organs of locomotion through the air or on land. He then called attention to the peculiar structure of the ventral, by which means a sucking disk or cup was formed, giving the fish the power of attaching itself with great strength to rocks or other materials; and to the peculiar structure of the dorsal fin of the Remora, or Shark sucker, which fin was so modified as to form a sucking disk on top of the head, enabling the fish to make itself fast by

the top of its head to the under side of sharks, or other large fishes, or to the bottoms of vessels, etc.

He would take this occasion to record the addition of two species of fishes to the fauna of Essex County waters. One of these was a Remora, having the peculiar structure of the head just alluded to. This species now added to the list of county fishes was the White-tailed Remora, the *Echeneis albicauda* of Mitchell. The specimen was taken at the mouth of the Merrimack River last month, and presented to the Peabody Academy by W. C. Johnson, Esq., of Newburyport. The other addition to the county fishes was that of two specimens of the Spotted Plaice, *Pleuronectes maculatus* of Mitchell, as given in Storer's last report, p. 204. This fish is very common at Cape Cod and the south, but the two specimens presented to the Academy by Mr. Samuel L. Walker of Salem, were the first that had been recorded as taken inside the bay, and having been caught in Salem harbor they form an interesting addition to the county fauna.

Mr. Putnam also stated that a gentleman present had placed a bottle on the table containing the Saw flies developed from the Current worm, of which so much was said at the last meeting. These Saw flies had gone through their transformations in the bottle in nine days. There was no earth in the bottle and it was an interesting fact to know that they could transform without it.

Prof. E. S. MORSE described some of the more common forms of animal life as we find them in our rambles along the shore, showing the distinctive features of the different species of mollusks, with great clearness. A bottle of marine worms was exhibited and described in this connection, showing the wonderful order and system which characterizes even these lower animals, and also that common animal the barnacle, which was formerly included among the mollusca before their organization was fully understood, and is now placed among the articulates.

Mr. HYATT made some remarks upon the generally accepted views of the upheaval and subsidence of continents, and mentioned that he lately found a raised beach on Marblehead Neck, some eight or ten feet above the present limit of high tide. This was a smooth water worn porphyry cliff. The extreme friability of this porphyry, and its rapid disintegration, as well as the form of the neighboring cliffs, show that the elevation must have been comparatively recent. The speaker then suggested that Dr. Wiuslow, who was present, should explain his views with regard to the subsidence of continents, which although very different from those commonly received, had been matured after many years of travel and study, and would undoubtedly be interesting to the Institute.

Dr. C. F. WINSLOW, of Boston responded to the call of the chair

upon a topic by which the attention of the Institute was called by Mr. Hyatt. This was upon the dynamics of geology, a subject to which Dr. Winslow, in the course of his extensive travels, had given special attention. The Dr. stated that his views of the causes of the general geographical features of the globe, as they at present existed, differed from the common theories of geology. He was compelled by his observations to believe in sudden *subsidences* of vast continental areas rather than in the *slow upheavals* of hills, mountain chains and continents. His attention was specially called to this subject when visiting the island of St. Paul's, in the Indian ocean. This is an island many hundred feet high, constituting an extinct crater, one side of which has sunk lower than the general subsidence of the land, leaving a channel of seventy feet wide, through which the sea flows with a depth of nine feet. The depth of water in the crater is two hundred feet, and is the same depth outside the bar, and for several miles on the south eastern side of the island. The ocean also presented a discolored appearance for one or two days sail to the south east, indicative of soundings with no very great length of line. That a great continent once occupied the Indian Ocean is the inference. Continuous observation of the various coasts of continents and great islands, and the various aspects of declivities and dislocated strata in high mountainous regions, as of the Atlas, Sierra Nevada, Andes, and Alps, and appearances even among some of the South Sea Islands, had slowly but strongly convinced him that the present theory ought to be carefully examined by geologists, with a view to its correction. He had presented two memoirs on this subject to the Boston Society of Natural History, in years past; and has subsequently found his observations and opinions sustained by those of DeLuc, a Swiss naturalist, whose observations upon the appearances of the Jura, led him (about the middle of the last century) to declare that these mountains resulted from subsidences rather than from upheavals.

This question of subsidence, however, led to other geological considerations of a very important character. It involved the necessity of vast caverns between the crust and molten nucleus of the planet, into which the crust, from cycle to cycle, has been rent or plunged. He had shown these to exist, as might be seen by his memoirs, under the northern part of the South American continent, under the Gulf of Mexico and Central America, into which all that area of the planet might at any moment fall, and the oceans be changed. The planet, when life first appeared, must have been five hundred miles larger in all its diameters. This view would comport well with the knowledge recently attained, relative to the consideration of physical force. It would also extend this knowledge in cosmical directions.

[To be concluded.]

BULLETIN

OF THE

ESSEX INSTITUTE.

VOL. 2. SALEM, MASS., AUGUST, 1870. No. 8.
One Dollar a Year in Advance. 10 Cents a Single Copy.

GILES COREY & GOODWYFE COREY.

A BALLAD OF 1692.*

COME all New England Men,
And hearken unto me,
And I will tell what did befall
Upon ye Gallows Tree.

In Salem Village was the place.
As I did heare them saye,
And Goodwyfe Corey was her name
Upon that paynfull daye :

This Goody Corey was a Witch
The people did believe,
Afflicting of the Godly ones
Did make them sadlie Greave.

There were two pyous Matron Dames,
And goodly Maidens Three,

* This ballad was "handed in for preservation" to the *Salem Observer*, and appeared in the issue of April 13, 1850. It has since been extensively copied in other publications, and is inserted here as appropriate in connection with the subject of debate at the Field Meeting at West Peabody. The perfect correspondence with the style of that period has caused it to be considered a veritable production of the Witchcraft times; and a copy of it which appeared some years since in a western paper, was headed "An amusing relic of Puritanism, written during the Witchcraft Mania in Salem." It was written by Fitch Poole, Esq., of Peabody.
—EDITORS.

That cryed upon this heynous witch,
As you shall quicklie see.

Goodwyfe Bibber she was one,
And Goodwyfe Goodall two.
These were ye sore afflicted ones
By Fyts and Pynchings too :

And those Three Damsels fair,
She worried them full sore,
As all could see upon their Arms
The divers Marks they bore.

And when before the Magistrates
For tryall she did stand,
This Wicked Witch did lye to them
While holding up her hand :

“I pray you all Good Gentlemen
Come listen unto me,
I never harmed those two Goodwyfes
Nor yet these Children Three :”

“I call upon my Saviour Lord,”
(Blasphemously she sayd)
“As Witness of my Innocence
In this my hour of need.”

The Godly Ministers were shockt
This Witch-prayer for to heare,
And soone did see ye Black Man* there
A whispering in her care.

The Magistrates did saye to her
“Most surely thou doth lye,
Confess thou here thy hellish deeds
Or ill death thou must dye.”

She rent her Cloaths, she tore her Haire,
And lowdly she did crye,
“May Christe forgive mine Enimies
When I am called to die.”

This Goodwyfe had a Goodman too,
Giles Corey was his name,
In Salem Gaol they shut him in
With his blasphemous Dame.

* Satan.

Giles Corey was a Wizzard strong,
 A stubborn wretch was he,
 And fitt was he to hang on high
 Upon ye Locust Tree :

So when before ye Magistrates
 For tryall he did come,
 He would no true confession make
 But was compleatly dumbe.

“Giles Corey,” said ye magistrate,
 “What hast thou hear to pleade
 To these who now accuse thy soule
 Of crymes and horrid deed.”

Giles Corey — he sayde not a Word,
 No single Word spake he :
 “Giles Corey” sayth ye Magistrate,
 “We’ll press it out of thee.”

They got them then a good wide Board,
 They layde it on his Breast,
 They loaded it with heavy Stones,
 And hard upon him prest.

“More weight,” now sayd this wretched man,
 “More weight,” again he cryed,
 And he did no Confession make,
 But wickedly he dyed.

Dame Corey lived but six dayes more,
 But six dayes more lived she,
 For She was hung at Gallows Hill
 Upon ye Locust Tree.

Rejoice all true New-England Men,
 Let Grace still more abounde,
 Go search ye Land with myght and main,
 Till all these Imps be founde :

And that will be a glorious Daye,
 A goodlie Sight to see,
 When you shall hang these Brands of fyre
 Upon ye Gallows Tree.

FIELD MEETING AT SWAMPSCOTT, WEDNESDAY,
JULY 20, 1870.

[Continued from page 112.]

THE appropriation of the force (radiated in the form of heat, magnetism and electricity from a contracting globe, formerly in a state of general fusion) by matter on the surface, and under the guidance of an intelligent and creative Providence, would end in the vast accumulation of organic forms deposited in times past, in the countless strata of the planet's crust. Mechanical force was absolutely necessary to the production, growth, and multiplication of all organisms, whether plant or animals. On present theories all heat is, and has been, radiated into space. This has been going on for infinite cycles, from all cosimical masses, and still the cold of space is intense. The lowest estimate makes it more than 150° below zero. Dr. Winslow thought the Providence of the universal mind could not permit such waste of the very force which is so necessary for the creation of the organic objects that cover the land and fill the seas of the globe.

This was the working power of nature, and must be *conserved* and never exhausted nor wasted. Space, in accordance with his investigations and reasonings, was a vacuum and not a plenum. All force radiated from the surface of the globe was employed in the work going on incessantly in the surface molecules, in order to embellish the planet and perpetuate the fluctuating changes which occur upon it. He hoped the investigations of others would be directed toward this subject, which to naturalists, in an especial manner, was of the highest importance, as destined to throw light on many phenomena heretofore obscure.

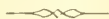
MR. HYATT, who had been referred to as an advocate of the theory of upheaval, said he did not know that Dr. Winslow's process of reasoning was not quite as satisfactory as that of those who advance the opposite view, and though he was rather inclined to the latter, he had in his explanations simply explained a theory that was generally accepted by geologists as a correct one. Other questions incidental to the topics, were raised, which caused Mr. Hewes to suggest that the orators appeared to differ in geology as well as in theology.

MR. S. B. BUTTRICK of Salem, presented a list of twenty-four species of native plants, which he had found in flower during the forenoon's excursion.

MR. W. P. UPHAM of Salem, was next called upon to give some facts in reference to the history of the town. He stated that what is now Swampscott, was originally a grant to John Humphrey, in 1635. In 1641 it was sold by him to Lady Deborah Moody, and occupied by her

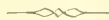
until her removal to Long Island a few years afterwards. It was then leased to Daniel King, who, in 1651, took a conveyance of the farm, which consisted of twelve hundred acres, with the buildings. Mr. Upham read a copy of a letter from the agent of Lady Moody to Mr. King, in 1649-50, relating to the purchase of the farm then known as Swampscott—the original still being preserved among the old papers in the Court House. In this letter was given a list of articles which Lady Moody wished Mr. King to send to her in part payment for the farm. This list was valuable, as showing the needs of the time, in the way of household furniture and farm utensils, etc.

A vote of thanks was passed to the Selectmen of Swampscott, for the use of this hall; to Mr. E. R. Mudge, and other citizens, for kind attentions.



ADJOURNED MEETING, FRIDAY, JULY 22, 1870.

John D. Eaton, Edward C. Cheever, William P. Andrews, J. Lyman Silsbee, all of Salem, were duly elected members.



FIELD MEETING AT WEST PEABODY, THURSDAY, AUGUST 4, 1870.

THE meeting was held at the spacious hall in the new school-house; thither the excursionists wended their way on alighting from the cars at the station near the crossing of the Salem and Lowell, and the Danvers and Georgetown Railroads, under the guidance of several of the leading citizens who were in attendance, and who extended to them a cordial welcome. After depositing their baskets the company divided into parties in search of objects for the gratification of special tastes. Some were interested in the historical associations connected with this spot, which is on the original farm of Giles Corey, who was pressed to death, and whose wife was executed in the witchcraft prosecutions in 1692; his house was situated about one hundred yards from the station, on land now owned by Benjamin Taylor. The community in this vicinity are firmly fixed on their paternal acres, many of the estates having come down to their present owners through a lineal descent of six generations. Some of the residences are very ancient; one built about two hundred and thirty years ago was visited by many who were heartily welcomed by the present proprietor. In this school district, comprising an area of some three square miles, there are one hundred and sixteen voters, and this number has not materially changed during the past one hundred years. The old cus-

tom of burying their dead on their own premises here prevails, and within these three square miles are twenty-three burial places.

The magnificent flora attracted several to the edges of the woods and ponds, and numerous beautiful specimens were collected. The animal kingdom also furnished some rare contributions to the findings of the day. Many ascended an elevated point of land and enjoyed a widely extended view of the surrounding country and the ocean in the distance. Some visited the Winona Mills, and were interested in examining the different varieties of cassimeres, ladies' cloth, etc., there manufactured, and inspecting the various processes through which the material passes, from the bale to the beautiful cloth. The mills are owned by Messrs. Train & Pollock, who employ about seventy-five operatives. The motive power is an overshot wheel of about forty horse power. At 1.30 P. M. the company re-assembled at the school house, which is a fine building, eligibly situated, with two large school rooms on the first floor, one department under the charge of a male principal and the other of a female assistant; and in the second story is a commodious hall, used not only for school purposes but also as a lecture and concert room for the neighborhood, and for religious services on the Sabbath. Here the collation was partaken and at 3 o'clock the meeting for the reports and speaking was called to order by the President, who requested Mr. James H. Emerton to act as Secretary, in the absence of that officer.

The records of the preceding meeting were read.

The following correspondence was announced:—

Robert Brown, Jr., Cincinnati, July 22; J. C. Holmes, Detroit, July 30; A. H. Johnson, Bradford, Aug. 2; Kaiserliche Akademie der Wissenschaften in Wien, Dec. 28, 1869; Nassauischen Verein für Naturkunde, Wiesbaden, Dec. 1, 1869; A. J. Phipps, Boston, Aug. 2; G. H. Preble, San Francisco, Cal., July 18; Royal Physico-Economical Society at Königsburg, 9. 4, 1870; C. M. Tracy, Lynn, July 30; C. A. Walker, Chelsea, July 20.

The LIBRARIAN reported the following additions to the library:

By Donations.

ANDREWS, EDMUND, of Chicago, Ill. The North America Lakes, considered as Chronometers of Post Glacial Time, 8vo pamph., Chicago, 1870.

BRONSON LIBRARY, of Waterbury, Conn. First Annual Report, 1870.

CHASE, Miss MARIA, Chinese Repository, 52 numbers. White's Eulogy on Bowditch, 8vo pamph.

CONGRESS LIBRARY, Washington, D. C. Catalogue of Books added in 1869, 1 vol. 4to. Washington, 1870.

COOK, WM. S. Massachusetts Business Directory for 1856. Business Directory of the Principal Southern Cities, 1866-7.

HOLMES, J. C., of Detroit, Mich. Hand Book and Guide Map of the City of Detroit, 1870.

LEA, ISAAC, of Philadelphia, Pa. A Synopsis of the Family Unionidae, 1 vol. 1to.

LEE, FRANCIS H. Westminster Review, 18 numbers. Edinburgh Review, 17 numbers. London Quarterly Review, 19 numbers.

LEE, JOHN C. Commercial Bulletin for July.

MANNING, ROBERT. Boston Directory, 1869, 1 vol. 8vo.

RANTOUL, R. S. Miscellaneous pamphlets 150, and 38 volumes.

ROPES, Rev. WM. L. Triennial Catalogue of the Theological Seminary, Andover. 1870.

STICKNEY, M. A. Miscellaneous pamphlets, 6.

WATERS, J. LINTON, of Chicago, Ill. Third Annual Report of the Brainerd Free Dispensary of Chicago for 1870, 8vo pamph. Edward's Chicago Directory, 1 vol. 8vo, Chicago, 1869.

YOUNG MEN'S CHRISTIAN ASSOCIATION, Worcester. Annual Report, 1870.

By Exchange.

AMERICAN ANTIQUARIAN SOCIETY. Proceedings at Annual Meeting, April 27, 1870.

BOSTON PUBLIC LIBRARY. Eighteenth Annual Report, 1870.

BOWDOIN COLLEGE. Catalogus Collegii Bowdoinensis. 1870, 8vo pamph.

KÖNIGLICHE PHYSIKALISCH-OEKONOMISCHE GESELLSCHAFT ZU KÖNIGSBERG. Schriften 1867, 1868, 4to pamphlets.

NATURWISSENSCHAFTLICHE GESELLSCHAFT ISIS, in Dresden. Sitzungs-Berichte, von Carl Bley, Jahrg., 1870, 8vo pamph.

• NATURHISTORISCHE VEREIN DER PREUSSISCHEN RHEINLANDE UND WESTPHALENS. Verhandlungen des Herausgegeben von Dr. C. J. Andrä. Bogen 1-14, 2 pamphlets, 8vo, Bonn, 1869.

PUBLISHERS. Book Buyer. Christian World. Cosmos. Eclectic. Essex Banner. Gloucester Telegraph. Haverhill Gazette. Historical Magazine. Land and Water. Lawrence American. Literary World. Little Giant. Lynn Reporter. Medical and Surgical Reporter. Nation. Nature. Pavilion. Peabody Press. Semi-Monthly Visitor.

ROYAL SOCIETY, of London. Proceedings, Vol. xvii, No. 110-113, Vol. xviii, 114-118. 1869.

VEREIN FÜR NATURKUNDE WIESBADEN. Jahrbücher des, Jahrg., 21 and 22, 1867-8.

YALE COLLEGE. Statements of Yale College in 1870, 8vo pamph. Obituary Record of Graduates of Yale College, 1870. Supplement to the Obituary Record of Graduates of Yale College, 1860.

The SUPERINTENDENT announced the following donations:—

FRANK BUTLER, of Salem. Pectens from the Grand Banks, and Ducks' Eggs.

ROBERT BROOKHOUSE. An Albino Sand Martin from Rowley.

WILLIAM GARDNER of Salem. Eggs of the Canary Bird.

JOSHUA P. HASKELL of Marblehead. A large collection of Insects of Essex County.

JAMES KIMBALL of Salem. Several Insects from Florida.

ANNIE LANGDELL of Salem. Specimen of Dragon Fly (Aeschnaheros).

Mr. LEWIS of Salem. Specimen of Brown Bat.

ROBERT MANNING of Salem. Specimens of Black Walnuts grown in Salem.

J. A. PAINE of Salem. Specimen of Tomato Worm (Sphinx quinquemaculatus).

JOSEPH STICKNEY of Salem. Partial skeleton of the skate.

SAMUEL WALKER of Salem. Smooth-back flounder.

The PRESIDENT requested Mr. A. C. GOODELL, jr., to take the chair, who, with a few words of introduction, in which he alluded to some of the historical associations of the place, and to the fact that this was the first time that a field meeting had been held in this immediate locality, proceeded to introduce the several speakers.

GEORGE D. PHIPPEN spoke at some length on the importance of the study of Botany and the use of plants in the great economy of nature. He then gave particular accounts of many of the plants collected during the forenoon's excursions, of which there were a goodly number, both in quantity and variety. Among those which he specified, may be enumerated *Lobelia cardinalis*, the beautiful cardinal flower, which with its varieties may be easily transplanted into our gardens, and become one of the most attractive flowers in the *parterre*; the several species of *Spiræa*, the *Orchis*, *Eupatorium*, *Gerardia*, *Rhexia*, and others. A specimen of the common teasel used by woollen manufacturers was presented, and the question was raised as to the feasibility of its cultivation in this vicinity. Those used at Winona Mills were brought from a distance. It was stated that Richard Crowninshield, Esq., many years ago raised it in considerable quantities in this town, and supplied several mills.

MR. JAMES H. EMERTON, of Salem, showed some very beautiful and varied specimens of galls, upon the leaves of the Walnut tree, and explained the habits of the insect which produces them. He depicted upon the blackboard some of the forms of the architecture of the webs of several species of spiders, as that of the *Agelena navia* and *Epeira riparia*, and in reply to some queries he described their mandibles and the manner of biting. The bite, he said, was poisonous, but they seldom or never poisoned anybody, for the reason that they have no jaws of sufficient power to puncture the human skin; he had handled all sorts of spiders for years, with perfect freedom, and was never bitten.

Prof. E. S. MORSE spoke of the common grasshoppers, and explained wherein their growth differed from that of other insects which undergo a thorough metamorphosis; and why they are plenty in dry, and scarce in wet seasons. The eggs are deposited in the ground. In dry weather they all hatch, while continued moisture is fatal to them. He concluded with some general remarks in advocacy of a better knowledge of the rudiments of natural history, alluding to popular errors currently entertained, and which creep into the newspapers with a singular ignorance of the facts. The poisonous nature of spiders and snakes then became a topic of debate, participated in by Messrs. Morse, Emerton, Bancroft, Cooke, Spofford, and others.

At this time the intense lightning and loud peals of thunder, accompanying a very heavy shower which had suddenly come up, inter-

ferred somewhat with the proceedings of the meeting. In a few moments, however, quiet was restored, and the Chairman, after giving some account of the church founded here in 1672, called upon Mr. W. P. Upham for information as to the history of Giles Corey, upon whose homestead this meeting was held.

Mr. UPHAM stated that though he feared he should not be able to present much that would be specially interesting, the principal facts in the history of Giles Corey being probably well known to all present, yet, as he had some years ago carefully studied the history of this region for the purpose of ascertaining the true site of Corey's dwelling house, he might be able to give some information on this point. In strolling over these fields and pastures to-day he had found pleasure not only from the contemplation of the quiet and peaceful scenery of hill and dale, and the alternate views of forest and clearing, so charming to the eye, but from the associations that cluster round the place. Names are called to mind of men who lived here long ago, men of strong character, pioneers in the civilization of that day. To them these scenes were rendered familiar and dear through long years of toil and honorable endurance.

Our place of meeting to-day is at the very centre of what was once the homestead farm of Giles Corey, one of the martyrs of the Witchcraft Delusion of 1692. His first home in Salem was in a house which was situated near the Town Bridge, as it was called, a little to the northwest of the corner of Boston and Federal streets. There are indications that the western part of the town was first settled by a class of persons specially inclined to differ in religious affairs from those having the control of the church; possibly this may have first taken place under the leadership of Roger Williams, who lived, in 1635, in the house now standing on the west corner of Essex and North streets. However this may be, investigations recently made, show that among the families living during the earliest years between North street and the Town Bridge, were those of Verren, Phelps, Trusler, Kitchen, Cotta, Reeves, Morey, Pease, Shattuck, Gardner, Needham, Byshop, Moulton, Buffum, Alderman, Flint and Southwick; all of them more or less conspicuous as conscientious opponents of some of the religious doctrines of their time, and some of them well known in history as fearless defenders of their own peculiar faith. Giles Corey's nearest neighbor, before he removed to this farm, was Lawrence Southwick, whose daughter has been immortalized by Whittier for her heroic exhibition of that same spirit of unyielding devotion which afterwards cost poor Giles Corey his life.

In 1660 Corey purchased of Robert Goodell, fifty acres of land, which had been originally granted to Edward Giles, and also about sixty acres more of the heirs of John Alderman. In the fall of the prece-

ding year he had made a contract by which John Norton was to build him a house "twenty foot in length, fiftene in breadth and eight foot stud;" and here he lived from that time till his death in 1692. This farm extended on both sides of the road which passes in front of this school-house where we hold our meeting. Corey gave it to his sons-in-law, Wm. Cleeves and John Moulton, who divided it between them. Cleeves conveyed his share, which was on the west side of the road, to Nathaniel Hayward, who, in 1702, conveyed the northern part of it to Wm. Curtice. This is still known as "the Curtice field," and the old well and house-place, just north of the school house, marks the spot where Curtice lived. That part of the farm on the east side of the road was conveyed by John Moulton to Humphrey French, in 1695, together with the house in which Giles Corey had lived. French's heirs conveyed it to Nathaniel Gould, and from him it descended to John Clammons, who, in 1773, conveyed it to Andrew Curtice, who conveyed it to Jacob Goodale. In 1792 it was conveyed to Samuel Taylor, who, in 1817, gave it to his son Benjamin Taylor, who now owns it.

The spot where Corey's house stood is on the south side of the Salem and Lowell Railroad, about twenty rods west of the West Peabody Junction. All traces of it were removed a few years ago, but the site is identified both by the record history and by tradition.

The deed by which Giles Corey passed this farm over to his sons-in-law, Cleeves and Moulton, was probably first drawn up and signed in the jail at Salem, where he was confined under the accusation of witchcraft, as it is dated April 24, 1692, and one of the three witnesses to the deed, which also had the character of a will, was Wm. Downton, keeper of the prison at Salem. It was finally executed at the jail at Ipswich, being acknowledged there July 25, 1692, before "Thomas Wade, Justice of the Peace." The property is described as follows, "all my land and meadow lying and being in ye bounds of Salem town," and "all my neat cattle and all other my stock upon the said farm or elsewhere, as likewise all my houseing." He speaks of himself as "lying under great trouble and affliction through which I am very weak in body but in perfect memory, knowing not how soon I may depart this life."

It is not unlikely that Giles Corey had already made up his mind to that determination to which he afterwards so firmly adhered, to refuse to plead either "guilty," or "not guilty," to the indictment for witchcraft, which had been brought against him. According to the ancient theory of English law, it was necessary that a person accused of a capital felony should voluntarily "put himself upon the country," by pleading to the indictment, before a trial could be had; probably this was required in order to give a kind of sanction to the subse-

quent conviction and execution. Where the accused party refused to plead, he was placed in close confinement (*en la prisone fort et dure*) with hardly any sustenance there to be kept "till he answered," "as those who refuse to be at the common law of the land." Afterwards the practice of pressing to death by loading with heavy weights, was introduced as a sort of mercy to the prisoner, shortening the duration of his torture. As no conviction or judgment could be had in such a case, the forfeiture of property, which would result from a conviction of a capital felony, was avoided; and numerous cases have occurred in England where the forfeiture of estates has been thus prevented. It was generally supposed, during the witchcraft trials of 1692, that confiscation would follow conviction, and this would probably have been the case had the delusion maintained its sway long enough for such a principle to take effect.

We may therefore believe that Giles Corey in enduring the protracted torture of being pressed to death, was actuated not by mere obstinacy, which would be wholly unaccountable and incredible, but by the determination to save his property from forfeiture, that it might be enjoyed after his death by his faithful sons-in-law, who alone had befriended him in this great emergency, while others of his family had deserted him.

The generous magnanimity and sentiment of gratitude which could prompt such a design, and the indomitable will and energy of purpose which could enable him to pass, unshrinking, through the terrible ordeal which a cruel and barbarous law required, excites our admiration and renders him worthy of being classed with those martyrs of history who have died in a cause which seemed good to them.

Mr. Upham then referred to Mr. William F. Poole, who was present, and who, he believed, could give some information as to the means taken to induce Gyles Corey to change his determination not to plead to the indictment for witchcraft.

Dr. JEREMIAH SPOFFORD of Goveand, spoke of some deeds of meadow land near here by Giles Corey, which had formerly been in his possession, but had been lost. He also said that fifty years ago he had heard a fork of the roads near by, spoken of as the place where Corey was buried.

Mr. WILLIAM F. POOLE was then called upon by the chairman, with some complimentary remarks on his historical writings, and an allusion to his article on "Cotton Mather and Salem Witchcraft," in the North American Review for April, 1869, as containing views which were different from those generally accepted in this community.

Mr. Poole remarked that though born and reared in what was then Salem, but since Danvers, South Danvers, and Peabody, and having been specially interested in the subject of witchcraft, he had never be-

fore visited this spot. In reply to the question propounded, he stated that measures were taken to cause Giles Corey to relent and plead. By the courtesy of the Massachusetts Historical Society he had recently the privilege of examining the manuscript Diary of Judge Sewall, who was a member of the court that tried the alleged witches. Judge Sewall made an entry on the 19th of September, 1692, stating that this day, about noon, Giles Corey was pressed to death at Salem for standing mute, or refusing to plead "guilty," or "not guilty." The Judge further states that much pains was used with him for two days by the court, one after another, and Capt. Richard Gardner of Nantucket, who had been his acquaintance, but all in vain.

No other instance of the infliction of this dreadful penalty has ever occurred in New England. Why did it occur in this case! No law permitting such a barbarity was ever on a New England statute book. There was no New England law in force at the time, by which witchcraft or any other capital crime could be punished. The government of Massachusetts Bay was in a transition state. The old charter of the colony had been taken away by the British Crown. For nearly six years the colony had been under the despotic rule of Sir Edmund Andros, or a temporary "council for the safety of the people." It was understood that the repeal of the charter vacated the laws enacted under it. The witchcraft excitement at Salem Village broke out in February, 1691-2, and when Sir Wm. Phips, appointed Governor under the new charter, arrived in Boston in May, 1692, the jails of Salem, Ipswich and Boston, were filled with persons committed for the crime of witchcraft, and awaiting trial. Many of them were the heads of families; their farm work was neglected, and, according to the custom of that period they were obliged to pay their own jail fees and expenses.

Gov. Phips arrived on Saturday, the 14th of May. On Monday the 16th, the government was organized. The council sat from day to day, and proceeded as rapidly as possible to appoint justices, sheriffs, coroners, and other officers for the several counties. On the 27th of May a special court was appointed for the trial of persons under arrest "for all manner of crimes and offences had, made, done or perpetrated within the counties of Suffolk, Essex, and Middlesex." Nothing was said in the commission about witchcraft. Under what law should the court act? There were no laws in force for the punishment of crime. The commission states under what law they were to act. They were instructed "to enquire of, hear and determine, for this time, according to the law and custom of England, and of this their Majesty's Province." As there were no Province laws, the latter clause of the sentence had then no meaning. A Province code, for the punishment of capital crimes, was not passed till October 29. The

judges therefore went into the trials for witchcraft under the English statute of James I. Giles Corey was not tried for witchcraft, but he came to his horrid death under the provisions of another English statute, for refusing to plead. It was English, and not New England barbarity which inflicted this dread penalty. Those judges were not inhuman men. The diary of Judge Sewall shows that they tried to save him from this ordeal. We know the personal character of these judges in other relations. They were under a delusion as to the phenomena and theory of witchcraft; but they were conscientious and honest men, and represented the temper and spirit of their times. Gov. Hutchinson, in an unpublished manuscript which I have recently found, says he cannot understand why they did not burn their witches, as was done in England, and as the statute, under which they acted, required. The public sentiment of that period was not shocked, at the time, by the penalties inflicted by the Court. Chief Justice Stoughton, who was the controlling mind in these transactions, received every vote for the same position when the Superior Court was regularly organized, on the 7th of December following. His associates, Richards, Winthrop, and Sewall, who also sat with him in the witch trials, were also reëlected, together with Danforth, but only by a majority vote. Their contestants were Hathorne and Gedney, who were as deeply implicated in the witch trials as they.

But the special court itself, we are told, was an illegal body, and this is, technically speaking, a correct statement. The new charter did not give the Governor and Council authority to appoint a special court to try criminal cases. That power was vested in the General Court which was to convene on the 8th of June. Why not postpone the organization of the courts till after the General Court had met. This would have been the regular, and hence the better proceeding. The preamble of the judges commission gives reasons, and reads thus: "Upon consideration that there are many criminal offenders now in custody, some whereof have lain long, and many inconveniences attending the thronging of the jails at this hot season of the year, there being no judicatories or courts yet established; ordered," &c. These reasons, though technically insufficient, may on the score of humanity, have had more weight on the minds of the Governor and Council, than they have on ours to-day. The 27th of May the hot season of the year! we must consider that the calendar has been changed, and that the 27th of May, old style, is the same as the 6th of June in our calendar. Shut up in close, inconvenient and crowded prisons, and conscious of their own innocence, the wretched prisoners doubtless clamored for a speedy trial; and it was charity to grant them this boon. The organization of the special court, and the appointees named in the commission, met with general approval. Not a

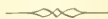
complaint was uttered, and not a breath of suspicion can be found in any contemporary writing against the character or personal integrity of any member of the court, and yet their course during the trials was severely criticised and condemned. The General Court acquiesced in the early action of the Governor and Council, and for nearly six months took no measures to organize a regular court of judicature. It hardly becomes us to lay too much stress on the irregularity pertaining to the organization of the special court, when there is so much to condemn in the blind and illegal proceedings at the trial. In this, again, the judges followed English precedents, the opinion of Sir Matthew Hale, and of English lawyers, rather than the advice of the leading clergymen of Boston and the vicinity. But time will not suffice to discuss this point.

My friend Mr. Upham, has said but little of the life and personal character of Giles Corey, while he has indulged in terms of eulogy which befit only a noble character. I have made no special study of Giles Corey's life, and hence the little I know of him is that common information which is open to you all. My impression is that, though an exemplary citizen and a church member in his latter days, he bore through life the reputation of anything but a saint. He had the misfortune to be continually in quarrels and disputes with his neighbors. He was a rash and impetuous man. He was once on trial for his life, for killing one of his farm laborers named Goodell; and though acquitted of that charge he was fined for cruelly beating the man. He was accused of stealing wood, of setting John Proctor's house on fire, and whatever mischief happened in the neighborhood it was thought safe to charge it upon Giles Corey. His rash nature may have brought him under suspicion when he was innocent. He sometimes turned upon his accusers, prosecuted them for slander, and recovered damages. On the whole he must have lived a disturbed and troubled life, and where there was so much smoke it is safe to conclude there was some fire. When the witchcraft troubles broke out he was eighty-one years of age. He believed in punishing witchcraft, attended the trials, and entered into the spirit of the prosecutions. When his wife was accused he hedged, and became himself involved. He was examined by the local magistrates, April 19, and committed to jail. At this examination he answered all questions, and manifested none of that resolute silence which five months later cost him his life. There was a rugged heroism in his manner of meeting death, which is picturesque; but it fails to inspire in me that respect which I feel for the calm faith and resignation of Martha Corey and Rebecca Nurse. I will not detain you further by incidents in his life, which must be familiar to you all.

Mr. S. C. BANCROFT, thought that what Mr. Poole had said gave a

different view of the character of Giles Corey, and made it appear that Mr. Upham's suggestion as to the motives which actuated him in refusing to plead could not be the true one. If Corey brought his misfortunes upon himself why should he deserve sympathy or respect? He believed that some had thought of erecting a monument to the memory of Giles Corey, but for his part he would not contribute to such a monument to one who had obstinately defied the laws. He was inclined to think that Corey died a fool's death.

Mr. UPHAM replied to this at some length, defending Corey as one possessing many good traits, although he had not intended to claim for him a perfect character in all respects. His eccentricities made him often during his life the object of slander, but no serious charge was brought against him which was not disproved. When he was accused of setting John Proctor's house on fire he was proved to be innocent beyond question, and was acquitted. The fact of his owning and carrying on successfully for more than fifty years, so large and valuable a farm as this, is greatly to his credit. But besides this his having been admitted to full membership in the old church at Salem when eighty years of age, and from that time at least, leading a wholly blameless and religious life, should relieve his character from the reproach of any former defects that may have existed. It seems very strange that here, in this enlightened age, and on the very spot where this victim of a terrible delusion had lived for so many years, the same calumnies that were made use of at the time by those in power, to shield themselves against the odium which even then attached to this cruel proceeding, should be again brought up to blacken his character. As to the monument to his memory, Mr. Upham said that he had not known that it had been proposed, but he was rejoiced to think that here on the very homestead of Giles Corey, the victim of the barbarism and superstitions of a past age, had arisen a most appropriate monument, the best that could be erected—a beautiful school house where the mind shall be educated, and an influence be spread abroad by which men shall be raised above the errors and delusions of ignorance, and freed from the darkness of superstitious beliefs.



WEDNESDAY, AUGUST 10, 1870.

A quarterly meeting was held at the rooms this day at 3 P. M.

The President in the chair. Records of preceding meeting read.

The proposed amendment to the Constitution, reported at the annual meeting, had its second reading.

Thomas Flint of Peabody, Francis H. Appleton of Peabody, and David Pingree of Salem, were elected Resident Members.

DEFICIENCIES IN THE LIBRARY.

It is intended, from time to time, to publish lists of deficiencies in the Library, hoping that the friends of the Institute who may notice the same, will be induced to aid in completing the sets. Any number or volume, not designated (within brackets) under any title, will be acceptable.

DEFICIENCIES IN DIRECTORIES.

[Continued from page 15.]

PROVIDENCE, by H. H. Brown [1838-9, 1841-2, 1844-5, 1847-8, 1850-1, 1852-3, 1855-4, 1855-6, 1856-7, 1857-8]; by Adams, Sampson & Co. [1861, 1862, 1863, 1865]; by Sampson, Davenport & Co. [1866, 1867]; by W. F. Bartlett [1859-60].

BRIDGEPORT, by Andrew Boyd [1865-6].

HARTFORD, by Melzar Gardner [1838, 1839, 1840, 1841]; by Y. N. Bolles [1842, 1844, 1845]; by Elihu Geer [1846, 1847, 1848, 1849, 1850, 1851, 1852-3, 1853-4, 1854-5, 1855-6, 1856-7, 1857-8, 1858-9, 1859-60, 1860-1, 1861-2, 1862-3, 1863-4, 1864-5, 1865-6, 1867-8].

NEW HAVEN, by James M. Patten [1845-6]; by J. H. Benham [1848-9, 1850-1, 1851-2, 1852-3, 1853-4, 1854-5, 1855-6, 1856-7, 1857-8, 1858-9, 1859-60, 1860-1, 1861-2, 1862-3, 1863-4, 1864-5, 1866-7, 1867-8, 1869-70].

NEW LONDON, by Starr & Co [1855-6].

NORWICH, by W. H. Boyd [1857, 1860]; by John W. Stedman [1865].

ALBANY, by Wm. Cummeier, Jr. [1829-30]; by Edmund B. Child [1832-3, 1833-4, 1834-5, 1835-6]; by L. G. Hoffman [1837-8, 1838-9, 1839-40, 1840-1, 1841-2, 1842-3, 1843-4, 1844-5, 1845-6, 1846-7, 1847-8, 1848-9, 1849-50, 1850-1]; by Hoffman & Munsell [1851-2]; by J. Munsell [1852-3, 1853-4, 1854, 1855, 1856]; by George Adams [1857, 1858, 1859, 1860, 1861, 1862, 1863].

ATBURN, by W. H. Boyd [1859-60].

BINGHAMPTON, by W. H. Boyd [1859-60]; by A. Boyd [1860-70].

BOONVILLE, by J. C. Kimball [1868].

BROOKLYN, by Henry L. Ogden [1839-40]; by H. R. & W. J. Hearne [1848-9, 1849-50, 1850-1, 1851-2, 1852-3]; by W. H. Smith [1854-5, 1855-6, 1856-7]; by Hope & Henderson [1856-7]; by J. Lain [1857-8, 1858-9, 1859-60, 1860-1, 1861-2, 1862-3, 1863-4]; by W. H. Boyd [1860].

BUFFALO, by L. P. Crary [1828, 1832, 1835, 1837, 1838]; by Faxon & Graves [1839, 1840, 1841]; by Horatio N. Walker [1842, 1844]; by Thomas S. Cutting [1848-9]; by Jewett, Thomas & Co. [1850-1, 1851-2, 1852, 1853, 1854]; by Thomas Lathrop [1855, 1856]; by E. R. Jewett [1857, 1858, 1859, 1860]; by R. Wheeler & Co. [1861]; by C. F. S. Thomas [1862, 1863, 1864, 1865, 1866, 1867, 1868].

BULLETIN

OF THE

ESSEX INSTITUTE.

VOL. 2. SALEM, MASS., SEPTEMBER, 1870. No. 9.

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NOTES AND QUERIES ON SALEM HARBOR.

THE harbor of Salem, which has floated so many ships famous in commercial annals, is deserving of some notice. A comparison of some of the entrances to the deepest harbors on the Atlantic coast will show that our own occupies a prominent position in the facilities offered for navigation.

The following table exhibits the depth of water in the ship channels of various ports, only the deepest being given. The figures in the columns, in feet and inches, are the depths at mean low water and mean high water.

SALEM, MASS.

Northern Ship Channel, between Baker's and Misery Islands	52 — 61.2
Southern Ship Channel	28 — 37.2
Inside of Salem Neck	19 — 28.2

PORTLAND, MAINE.

From Cape Elizabeth to Portland Light	45 — 53.9
From Portland Light to Breakwater	36 — 44.9
From Breakwater to end of Munjoy Point	30 — 38.9
From Breakwater to Anchorage	16 — 24.9

PORTSMOUTH, N. H.

From Whale's Back to Fort Constitution	42 — 50.6
From Fort Constitution to Narrows	51 — 59.6

NEW YORK, N. Y.

Gedney's Channel	23 — 27.8
Swash Channel	17 — 21.8
Old South Channel	21 — 25.8
Main Ship Channel, passing Sandy Hook, to S. W. Spit Buoy	31 — 35.8
Main Ship Channel, after passing S. W. Spit Buoy on N. E.	
Course, one mile up the bay for New York	23 — 27.8

The depth of water inside of Winter Island, in Salem Harbor, is considerably greater than opposite the Neck.

Taking all things into consideration, such as protection from the force of the sea by Islands, the Northern shore, and Naugus Head; freedom from liability to change in the channels (the bottom being hard and the shores rocky, without shifting sands); accessibility from and to the open sea, and all the local advantages of the position, why is not Salem a desirable place for a naval as well as a military station? As such it was strongly recommended by Dr. Bentley more than half a century ago.

BOWDITCH'S LEDGE.

This ledge did not derive its name from Dr. Nathaniel Bowditch, as is generally supposed, but from his great-grandfather, William, born in 1663, died in 1728. He was the son of William who was Collector of the port of Salem under the Colonial government — born 1640, died 1681. The son William was a shipmaster and merchant. About the year 1700 he commanded the vessel called the Essex Galley, which struck upon this ledge, and hence the name Bowditch's Ledge. The Indian designation was *Tenapoo*, and as such it has been known to the pilots of our day.

A RELIC OF DR. BOWDITCH.

There is preserved in the Salem Custom House a Manifest of the cargo laden on board the Ship Putnam, whereof

Nathaniel Bowditch was master, from Sumatra and the Isle of France, dated December 27, 1803. The ship was of the burthen of two hundred and sixty-six and forty ninety-fifths tons; she was the only ship that Dr. Bowditch ever commanded, and this was his last voyage at sea. The Manifest is entirely in his own handwriting and is made out with his characteristic neatness and accuracy. It also bears the autograph of Col. William R. Lee, then the Collector.

An interesting incident is related of this voyage, in the Memoir of Dr. Bowditch, by his son, Nathaniel Ingersoll Bowditch, viz. :

"In his last voyage, Dr. Bowditch arrived off the coast in mid-winter, and in the height of a violent northeast snow-storm. He had been unable to get an observation for a day or two, and felt very anxious and uneasy at the dangerous situation of the vessel. At the close of the afternoon of December 25, he came on deck, and took the whole management of the ship into his own hands. Feeling very confident where the vessel was, he kept his eyes directed towards the light on Baker's Island, at the entrance of Salem harbor. Fortunately, in the interval between two gusts of wind, the fall of snow became less dense than before, and he thus obtained a glimpse of the light of which he was in search. It was seen by but one other person, and in the next instant all was again impenetrable darkness. Confirmed, however, in his previous convictions, he now kept on his course, entered the harbor, and finally anchored in safety. [Upon this occasion he had given his orders with the same decision and preciseness as if he saw all the objects around, and thus inspired the sailors with the confidence which he felt himself. One of them, who was twenty years older than his captain, exclaimed, 'Our old man goes ahead as if it was

noon-day !’] He immediately went on shore, and the owners were very much alarmed at his sudden appearance on such a tempestuous night, and at first could hardly be persuaded that he had not been wrecked. And cordial indeed was the welcome which he received from one who had been listening to the warfare of the elements with all the solicitude of a sailor’s wife.”

The Manifest is an interesting and valuable relic, and should be carefully preserved.

THE ISLANDS.

Baker’s Island was so called as early as 1630, probably from one Baker, a ship-carpenter, as is supposed. This and the other islands were long covered with the primitive forests, and complaints were frequent that the woods suffered from depredators. In 1670 the town authorities issued the following order :

That “ Francis Collinse haue liberty to fell twenty trees for to build his son, John Brown, a house, and himself a house, vpon Baker’s Iland, and ther to take what he wanteth, and is apoynted to take care, that not any cutt timber or wood without leave of Selectmen.”

In 1673 a committee was empowered to have wood, illegally cut down there and on Moulton’s Misery, brought away, and to use suitable means to prevent similar offences.

Baker’s Island was leased to John Turner, and the Miseries to George Curwen, in 1678, for a thousand years and a day. In 1731 a son of the first lessee purchased the fee of Salem in the premises thus let to him. The price paid for Baker’s Island was one hundred and thirty pounds, in bills of credit, at eighteen shillings and sixpence for an ounce of silver. A like sum was paid for Misery Islands. In 1783 Baker’s Island was described

as of the best soil for grass : great quantities of superior butter and cheese had been made there from the milk produced on its fodder ; always had a supply of fresh water, and was " never known to be infested with flies, musketoos, or other insects to disturb " the cattle. The Light Houses were erected in 1797, and the lights first shown January 3, 1798.

The following article by Dr. Bentley, which was published in the Essex Register of August 9, 1817, is of interest in this connection : —

" Our Islands are not in the high cultivation they readily admit, and are the only part of our soil which is deprived of its former reputation. They are not so extensive as the Boston Islands, but they are recovering the share of favor they have lost.

The excellent crop of grass this year, on Cat Island, has rewarded the labor of our neighbors from Marblehead, who gathered it.

The provident keeper of the Light House on Baker's Island has restored a garden to that spot, and has renewed some of the labors which rendered that island delightful, while it was the property of Col. Turner and his heirs, above a century.

The Moulton Misery Isles had as early attention, and were an object to the family of Capt. Curwen, the greatest merchant of Salem. The House, which was demolished during the war of the Revolution, has not yet been restored, but the Islands promise to reward the diligence of any worthy inhabitant and cultivator.

The romantic scenery of Eagle Island remains the same, losing only its trees.

Coney Island was purchased by the family of Sewall, not long after the former purchases we have mentioned, and has yielded its harvests in our own time, and been

memorable for its festive scenes, and will again invite the same guests who once blessed it.

Within the Islands, upon Beverly shore, and above West Beach, is the farm long possessed by the venerable Barnard, of Marblehead, whose praise is in all our churches. Along the shores are to be seen the houses raised on the same favorite spots which were chosen by the first planters of Salem, and near the central settlements of Beverly, opposite to the bar from Salem Neck, once the landing of the first ferry, is to be seen the place of the palisadoes which were in the rear of Fort Derby, of which the front is on the sea."

Cat Island (now Lowell Island) was granted, in 1655, by the General Court, to Gov. Endicott and his heirs. Its proper designation was Cotta, probably from an early inhabitant of that name, Robert Cotta, but it is also called in some documents Catta, subsequently contracted by the popular phrase to Cat. It was bequeathed in 1684, by Zerubbabel Endicott, to his daughters, under the name of Cotta. The grant to the Governor was as follows:—

"1655—May 23. At the request of our present honoured Gouvernor, John Endecott, Esquire, the iland called Catta Island, being about two acors, lying neere to Marble Head, shall & hereby is graunted to him & his heires foreuer, provided it be not giuen to any towne or person already."

The Misery Islands were early called Moulton's Misery, from a disastrous shipwreck there. They appear under that name in 1658-9, and probably earlier.

House Island was so called from a rock on it resembling a building.

In 1660, May 31, the General Court Record reads:

"In answer to ye petition of ye selectmen of Salem,

humbly crauing the favor of this Court to graunt them the propriety of the ilands called the Miserjes and Baker's Island, the Court judgeth it not meete to graunt theire request."

On the 16th of October, of the same year, 1660, however, the Court acceded as follows:—

"Vpon a motion made in the behalfe of the inhabitants of Salem, this Court judgeth it meete to graunt to them certaine islands knowne by the name of the Miserjes & Baker's Island, lying in the mouth of theire harbor: provided, that it shall be lawful for any fishermen to make vse of them in making of fish, & whateuer conduceth thereto, as building houses, stages, &c., as also wood & flaking in all fishing seasons."

The subsequent proprietorship can be easily traced from the public records.

THE NAMES

of ledges, shoals and rocks present a curious theme for study and inquiry. Who, for instance, can state the origin and significance of the terms Satan, Pope's Head, the Brimbles, the Endeavors, the Triangles, Kettle Bottom, Great and Little Haste, Great and Little Aqua Vitæ, Cutthroat Ledge, House Ledge, Pilgrim Ledge, and numerous rocks that might be mentioned?

The Haste was called Johnson's Haste before 1697, and probably from one John Johnson of Salem, who, in 1693, prays redress for what he considered oppressive Custom House charges, the said petitioner "having for nigh three years followed the trade of boating goods" to and from Boston.

Rising States Ledge was probably so called from a vessel of that name touching upon it, but can any of our old commercial men tell when and under what circumstances?

In the latter part of the last century, and early in the present there was a ship *Rising States*, still remembered by some among us, and the name of the ledge may be in some way connected with an incident in her history. There was also a brig of the same name. The ledge was so called previous to 1806, for Dr. Bowditch thus records it in his chart of the harbor, published in that year.

There is a rock now called Gray's rock, but it was formerly styled the Gray rock, and Satan was called the Black rock, as if to designate the color.

Might not many interesting events in our commercial annals be revealed by endeavoring to trace out the origin of these terms? Some of them undoubtedly date back to the earliest settlement of Salem, and have as memorable a significance as those of Thacher's Island, Avery's Rock, and Norman's Woe—the first two recorded in Mather's *Magnalia*, and the last immortalized in Longfellow's *Wreck of the Hesperus*.



EXCURSION TO PLYMOUTH, THURSDAY, SEPTEMBER 1, 1870.

THE members of the Institute and their friends, numbering about seven hundred, spent a most delightful day on an excursion to Plymouth in the steamer "*Escort*," which was chartered for the occasion. The smoothness of sea, the brightness of sunshine and comfort of temperature were all that could be desired. A more auspicious day could not have been selected. The boat left Phillips wharf, Salem, at 8.30 A. M., and after skirting along the shores of Marblehead and Swampscot struck across the bay in a direct line to Minot's Ledge off Cohasset. The breakers were dashing around the lighthouse and the white foam was discernible for a considerable distance. This lighthouse is a firm, substantial, and massive work, and is not likely to experience the fate of its predecessor, which was destroyed in the great gale of April 16, 1851, with its inmates. The people at the light waved their handkerchiefs in recognition of the excursion party, the steamboat blew its whistle, and the fog bell at the light-

house was struck several times in response. This, with music from the band, constituted the interchange of courtesies usual on such occasions, and the event was, on the whole, one of considerable interest.

From Minot's Ledge to Plymouth the boat kept near the shore, thus affording an opportunity to observe its peculiarities as contrasted with the North Shore. South of Cohasset, few rocks or ledges were to be seen. Steep sandy bluffs rose to the view with much frequency. The straggling houses which dotted the hills and slopes, and the villages which occasionally came into view, were objects of interest and elicited frequent inquiry as to the names of the different towns, which are, — Cohasset, Scituate, Marshfield, Duxbury, Kingston, and Plymouth. Duxbury is due west of Provincetown; the extremity of Cape Cod and that town, with Kingston and Plymouth, form the western shore of Cape Cod Bay. These towns cover considerable territory, and generally have more than one village. Thus there are Cohasset and North Cohasset, Scituate and North Scituate, North Marshfield, East Marshfield and South Marshfield, Duxbury and West Duxbury, etc. The old lighthouse at Scituate was an object of some interest, having a very primitive look, while Marshfield attracted special attention as having been the home of Webster whom Massachusetts loved to honor.

The harbor of Plymouth is shallow, and good pilotage seems essential. The pilot boats appear to be numerous, and the captain secured the services of a pilot from one of them; and the steamer, in making her way slowly in, once grounded, even with this precaution. She entered by a winding and circuitous course, running close to a long, low sand bar, which extends a mile apparently, into the bay and across the mouth of the harbor, and upon which the attempt has been made to construct a long line of breakwater, which still stands with varying degrees of permanency. Rounding the headland at the north of the harbor, which contains the Gurnet lighthouse, the excursionists had a view of Clark's Island, where the Pilgrims spent their first Sunday, and of Captain's Hill, where Captain Miles Standish lived and died, and where, it is said, vestiges of his house, and the well dug upon the premises, still remain.

At 2 P. M. the boat reached her destination; the company was met at the landing by a committee of the selectmen, who conducted them to Plymouth Rock, where a cordial welcome was tendered by the chairman, ALBERT MASON, Esq., as follows:—

FRIENDS OF THE ESSEX INSTITUTE:—I am happy in behalf of the oldest town in New England, to extend her greeting to so distinguished a company, from her next oldest sister.

Two hundred and fifty years ago, Samoset, with the little English

which he had learned from fishermen, made, near the spot where we now stand, the most impressive reception speech which history preserves. While I trust the Pilgrims before me have not that fear of hostile intent from the natives, which gave to the auditors of Samoset such peculiar interest in his words of welcome, I should esteem myself especially fortunate to have learned enough of the language in which antiquarians think, to be able to give to you the timely aid in the purpose of your pilgrimage that his brief words gave to them in the sublime object of theirs.

As Samoset had need to employ Squanto, who had learned English in England, to communicate fully his kindly purposes, so to interpret in detail all the ancient relics of historic interest which we wish to show you, I shall need to call to my aid the society which has acquired a readier speech by studies in the same school with yourselves and I know the resident members of the Pilgrim Society will assume this office with great pleasure. It will suffice for me to give the general words of welcome which shall assure you that Plymouth is right glad to see you: that she has not forgotten the intimate blending of her early history with that of Salem. Indeed so close were the relations of the two colonies that history has somewhat confounded the record of the two, and has not unusually given to Plymouth the honor which belongs to Salem, of being the first home of the Puritans in New England, and — pardon me for the reminder — has yet more commonly charged upon us the particular shortcomings of those excellent men in which the Independents of Plymouth did not share.

Salem and Plymouth are no longer in their youth, and many changes have been wrought in each since Roger Williams, the beloved assistant pastor of the church at Salem, first preached *absolute* freedom of conscience, and defined the dividing line of jurisdiction between church and state so clearly, that he had need to make Plymouth an asylum for two years. Both towns are now what the Boston *Advertiser* says "seem like stray locks of gray hair upon the forehead of the nation;" but I say for the older of the two, what I doubt not the younger will endorse, that the nation itself is yet young, and her oldest towns are yet in the prime of life, with so much yet to achieve that two hundred and fifty years are but a preparatory course to what is before them. The visit of to-day may be gathered from your records by some industrious historian of centuries hence, and serve an important purpose in perpetuating the intimacy that should ever be cherished between the oldest towns of New England.

We thank you for this call, and regret that you cannot prolong it.

I am requested, in behalf of the Pilgrim Society, to invite you to visit Pilgrim Hall and spend as much time with the relics there as you may be able. The Rock is here; Cole's Hill is before you; Burial Hill just

beyond. Our town is open to your study; its every hill and every valley, every pond and every stream has a story that carries the mind back to the time when your fathers and ours were drawn to each other by common perils and common hopes. May not the memory of those perils and the realization of those hopes bring Salem and Plymouth together as pleasantly to-day?

As the family of our fathers' friends we bid you again a most hearty welcome.

Dr. HENRY WHEATLAND, President of the Essex Institute, replied as follows:—

MR. CHAIRMAN:—In behalf of the members and friends of the Essex Institute, I tender their sincere thanks for your cordial reception this day, and for the opportunity to examine the interesting memorials of this ancient town, the early home of the Pilgrims. It is appropriate that the descendants of the companions of Roger Conant, who formed the first permanent settlement on the North Shore of Massachusetts Bay in 1626; of Governor Endicott and his associates, who landed in 1628; of Rev. Francis Higginson and his friends, in 1629; and who organized the first church in the colony, should make a pilgrimage to this sacred spot, and revive the incidents of that early period in our history. A few months since I received a letter from a former resident of Salem, now residing near Lincoln, England, giving a very interesting account of two visits to Scrooby, the first in 1849, the second in 1869; he described the old manor house, and narrated many interesting reminiscences of William Bradford and his friends in the organization of the pilgrim church, which, after a removal to Leyden for a few years, came to America in 1620, and landed on this spot.

The Essex Institute was formed in 1848 by the union of the Essex Historical and the Essex County Natural History Societies, the former organized in 1821, the latter in 1833. Objects, to collect and preserve materials to elucidate the civil and natural history of the County of Essex, and for the promotion of art, literature and the sciences. A leading feature is the plan of holding field meetings, which were first instituted in 1849, and have since been annually held with the exception of some two or three years—usually about five each season in the several towns in the county. Four have been held beyond the limits. This slight sketch may perhaps be desirable to inform you of our objects and aims. I trust that we may ere long have the pleasure of receiving a visit from the Pilgrim Society and the citizens of this town, and again thank you for this reception.

Dr. Wheatland introduced Dr. GEORGE B. LORING, who spoke as follows :—

LADIES AND GENTLEMEN :— I cannot assume the honorable position which the President of our Institution has assigned me, without calling to your minds the associations which gather around a visit of the historical explorers of Essex County, to the renowned locality where the Puritans planted their genius on this continent, after vain, and I think, heaven-thwarted endeavors to plant it elsewhere. We are reminded of the early relations which existed between the great men of Essex and Plymouth. When, in compliance with a promise to Roger Conant, who, as early as 1626, was found nursing the infant Massachusetts Colony on the headlands of Cape Ann, and who, with his companions, has been called "the sentinels of Puritanism on the Bay of Massachusetts," John Endicott, a "Puritan of the sternest mould," embarked in the *Abigail*, for the settlement of Naumkeag. Plymouth was his guiding star, and the God of the Puritan was his "stay and staff" through all his trial. Disease attacked these first settlers of Salem, and "being destitute of a physician, Dr. Fuller of Plymouth went to their relief; and in the interview with Mr. Endicott, the religious views of the Pilgrim were discussed, which led to a correspondence between Mr. Endicott and Governor Bradford, then personally strangers, and, a friendship commenced which lasted till death." Then it was that the Woodburys, and Balches, and Palfreys of Essex County learned the earnestness and fidelity and power of the Carvers, and Brewsters, and Winslows, and Aldens, and Standishes of Plymouth; and now we, in whose veins the blood of both colonies has commingled, are here to view the sacred relics and tread the sacred soil of our ancestors. The same sun which lighted their watery pathway, has shone for us on our journey hither; upon the bosom of these waters their humble shallops floated; the soft land breezes cheer, and the fierce gales vex the voyager, as they did when the *Mayflower* and the *Abigail* bore their precious freights; here is the same "stern and rock bound coast;" here are the islands and the low line of shore, and here, let us piously and gratefully believe, is the same defiant spirit, the same earnest faith, the same trust in God and humanity, which gave the Puritan immortal force, and which have stood as firm against all attacks, as have these promontories against the assaults of the raging seas.

I have no time here to discuss the genius, or recite the history of the Puritans of Plymouth and Naumkeag; but, while as a citizen of Essex County I can congratulate the men of Plymouth that upon their name, and not upon ours, has the mantle of immortality fallen, I congratulate the world that the Puritan spirit of our common ances-

try still endures, and holds triumphant sway over the social and civil institutions of our land. We admire the spirit of adventure which settled the other American colonies; but we bow before the stern resolve which settled Plymouth. We may envy the "calm and monotonous ease" which Wouter Van Twiller secured for the Dutch colonists of New York; we may repose for a time in the liberal indifference which opened the mouth of the Hudson to the flying Swedes, and Walloons, and Waldenses, and Huguenots, and English, and Hollanders, and converted the harbor of New York into a refuge and not a nationality; we may study with interest the jealousy and suspicion which created for the Dutch colonies a dislocated unity, and perhaps sowed the seed, from which a noxious crop of reservations and distractions has sprung up in our country; but we admire and believe in that faith in God and a good government, which inspired the Puritan to establish a popular civil system upon a substantial foundation, and gave us in reality "a church without a bishop, and a State without a king." Morally and physically the Puritan grew strong, and it has been well said of the early colonial period of New York that "it served but indifferently to prepare the (Dutch) colonists for their impending contentions, with men whose frames and spirits had been braced by the discipline of those severe trials that befell the first planters of New England."

Compared also with the various other American colonies, how vital and enduring Plymouth appears! Of their settlements hardly anything remains which would call forth a pilgrimage; of their governments no valuable principle has been handed down to us; of their religious fervor and devotion, we have no record to command our admiration or reverence. Not to Jamestown, not to New York, not to the Carolinas, do men turn their steps in adoration. Not in this day can the long repose of the Hollander be broken, and men be taught that New Amsterdam is a rival of Plymouth in historic greatness, significance and renown. History provides its most brilliant pages to those events which operate as causes, not to those which follow as a consequence. And so in the annals of popular representative government, the compact made on board the Mayflower outshines the Union of the Dutch colonies, and the blows struck at Concord and Bunker Hill, amid trial and disaster, have a significance unknown to the successful endeavor at Saratoga, which owes its name and its fame to the fact that the Puritan of Massachusetts would not submit to oppression and wrong.

While the Puritan believed in civil freedom and individual rights, he also believed in a definite form of religion and government, to aid man in resisting temptation and developing his moral nature, and to aid him also in discharging his civil service wisely and faithfully. In-

fidelity and anarchy had no charms for him. The solemnity and fervor with which he started forth in his career, impatient alike of the restraints of England, and of the sluggish materialism of Holland, have never been equalled either in peace or in war. Casting aside the temptations of mercantile adventure, he called his poverty-stricken band about him, and set forth upon an enterprise whose value can never be measured. The "tender last farewell" of John Robinson, filled with a spirit of inquiry and liberality, and warm with religious faith, inspired at once the thought and sentiment of advancing Christianity. "We are now, ere long," he said, "to part asunder; and the Lord only knoweth whether ever I shall live to see your faces again. But, whether the Lord hath appointed this or not, I charge you, before God and his blessed angels, to follow me no further than I have followed Christ: and if God shall reveal anything to you by any other instrument of his, be as ready to receive it as ever you were to receive any truth by my ministry: and I am confident that the Lord hath more light and truth yet to break forth out of his Holy Word.

* * * Remember, also, your church covenant, especially that part of it whereby you promise and covenant with God and one another, to receive whatsoever light and truth shall be made known to you from his written word. But take heed what you receive for truth, and examine, compare, and weigh it well with the Scriptures." This was the Puritan's religion, his inheritance from a long line of protesting ancestors, his support, too, in those hours of trial which attended the severe and solemn service to which he was born.

The Puritan's civil organization was founded upon the same elements as his religious—loyalty, faith, self-reliance and the largest freedom. The compact made on board the Mayflower, the result of social and civil necessities which had not been provided for by that government which they had left, but which they still recognized as their own, is remarkable above all things in this—that it was entirely adapted to the occasion, and laid the foundation of the government on the consent of the governed. The hard experience of the Puritans under oppressive and arbitrary rule, had taught them the value of that civil system which springs from the wisdom of those who constitute society and the state, and which turns for its support to the loyal hearts and moral energies of those who made it. How inferior to this great principle is any mere machinery of power—any mere superstructure, which is exposed to the storms of popular passion, and can only supply a temporary necessity. Theories of finance, and of the relations of the states to the general government, and of taxation, and of charity and education, may change, but for popular government, the theory and practice of the Puritans cannot change. And the instinct of mankind, in all great popular endeavors, turns to

this spot for an example of those great virtues which can alone give stability to the state, and which are as immortal as human aspirations, and man's highest desires.

No wonder that the American mind has erected here one of its great temples of worship. The high purpose and the immortal thought of the Puritan have imparted to our nationality a greatness, which shall endure through all decay and change, as the inspiration of the prophets and wise men of old has outlived the temples and groves which echoed to their divine words. The great American poem was written here — the great American anthem was sung on these shores. The spiritual sublimity which hovers over this spot — what has it not done to give the American name glory and honor and power in all the realm of thought; what has it not done to give mankind new courage in all heroic effort. Let us then with large and liberal hearts thank God for this great inheritance, and find here that divine light, which, streaming across our land, warms and irradiates, and vitalizes all names and events that are dear to the American people. Let then Plymouth stand as she has always stood, the central figure around which the nobility of our land may cluster. Not as rivals, but as companions, let the sister colonies be called into her presence; and her glory shall be theirs also. And let us remember that history has assigned the Puritan his position, from which he cannot be dethroned; and that the annals of America and the world could better spare any other colony than that planted at Plymouth.

THE HON. THOMAS RUSSELL of Boston was introduced as Judge Russell, and came forward and said, he would rather be introduced as Mr. Russell of Plymouth. He then made some brief and very appropriate allusions to the localities of historical interest and closed his remarks in extending an invitation to all to accompany him on a tour of inspection; the limited time before the departure of the boat only permitting a cursory view.

At Plymouth Rock near the landing, a handsome granite monument is nearly completed; a portion of the rock was removed some years since; placed in the area in front of Pilgrim Hall, and enclosed within an iron fence, on which are inscribed the names of the signers of the compact on board of the Mayflower, Nov. 21, 1620.

Cole's Hill is near by, where fifty-one of the Pilgrims who died the first winter were buried, and where the ground was sowed with grain, that the Indians might not know the number of their dead. A short distance beyond is Burying Hill, originally called Fort Hill (the first defensive structure having been erected on its summit), an eminence rising one hundred and sixty-five feet above the sea, which commands

an extensive view embracing the harbor and the shores of the bay for miles around; the visitor cannot fail to recall the time when the Mayflower sailed into the harbor, laden with men, women and children, the founders of a mighty empire, and reflect upon the great changes that have occurred during the lapse of two and one-half centuries. The whole extent of this hill is covered with the symbols of mortality—the sepulchres of these venerated fathers. The oldest stone marks the grave of Edward Gray, and bears the date of 1681. The remains of Gov. Bradford and many of his descendants here repose. The Court House contains many old documents and papers of great value and interest.

Pilgrim Hall, a monumental structure of rough granite, has many old relics, a library and some paintings. On entering the Hall, the painting of the "Landing of the Pilgrims," presented by Henry Sargent, Esq., of Boston, attracts attention: size, thirteen by sixteen feet. All the prominent characters in the colony, are represented in the costume of their time, with the friendly Indian, Samoset, in the foreground. There are also portraits of Edward Winslow, Josiah Winslow, Gen. John Winslow, Major General Benjamin Lincoln, Hon. John Trumbull and others. Among the antiquities are noticeable: a chair which belonged to Gov. Carver; the sword, pewter dish, and iron pot that once belonged to Miles Standish; the gun-barrel with which King Philip was killed; deeds bearing the signatures of Miles Standish, Josiah Winslow, Peregrine White, John Alden, and many others of the old notables; chairs belonging to Elder Brewster and Gov. William Bradford; the "Fuller Cradle," besides many other curious and interesting relics.

This bird's eye view has awakened a desire to revisit these interesting localities when sufficient time will permit a more extended examination.

The Hon. Jacob H. Lund, Collector Russell. Albert Mason, Esq., Charles C. Doten, Esq., and other prominent citizens, were active in rendering this visit agreeable and profitable. To these gentlemen the Institute hereby tenders its sincere thanks. Promptly at the appointed hour the party reëmbarked for home, and the "Escort" again steamed towards Salem, and at 8 P. M. reached Phillips' wharf, the sail as pleasant and enjoyable as the outward trip had been.

BULLETIN

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OLD CHANNELS OF TRADE.

FROM A PAPER READ BEFORE THE ESSEX INSTITUTE FEB. 4, 1867,

BY ROBERT S. RANTOUL.

POLITICAL Economy tells us that cost of transportation is as legitimate an element of value, as is labor expended in the production of merchandise, or fixed capital invested. Facilities for transportation, therefore, affect directly and sensibly the cost of all that we use and the value of all that we have. Thus the coal of Pennsylvania has but little worth to the limited population near enough to reach it without public facilities for transportation, while a very large fraction of what we pay for the fuel in our grates is paid to the carriers of this exhaustless treasure. In 1817 coal could be had at Pittsburg at six cents per bushel. Again, wheat is worth about one dollar and a half per bushel or fifty dollars per ton. To move a ton of it on common roads costs fifteen cents per mile. Three hundred and thirty miles of transportation, then, will cost as much as the wheat will sell for. But transportation by rail is computed at one and one-half cents per ton, and now wheat may be moved thirty-three

hundred miles before the freight equals its marketable value. Thus the economic limit of transportation is extended tenfold by the application of steam power, and Chicago becomes great, while without this means of garnering in the golden harvests of the prairie, she might be an Indian trading post and little more.

Water has been, in modern times, the great carrier of products. To the interchange of products by water, the term "commerce" has been applied, almost exclusively. For commerce, thus understood, high claims have been advanced. Commerce has been held to be the civilizer of the world. Hovering on her white wings from sea to sea, she has been likened to the dove of Peace. She has been called, too, the dispenser of the world's wealth—the arbiter of the destiny of princes. Let us examine these claims for a moment.

Nothing contributes so much toward keeping alive the unholy fires of prejudice, alienation and hate as geographical separations among men. Bring human beings together and they at once perceive—and that, too, by instinct and without persuasion—that their fellows are more like themselves and less ill-disposed than they had fancied them to be. Thus commerce, being the great carrier of persons, has been the great pacificator, and reconciler,—and, among human agencies, the master-educator and civilizer of mankind. But commerce has also been the dispenser of wealth.

The East has been the historic, as it has been the fabled source of the world's riches. Pactolus of the ancient poet enriches, with its golden sands, the India of the modern statesman, and the glowing "wealth of Ormus and of Ind" are not more the revel of Milton's fancy than the record of the Rothschilds' ledger. To this result circumstances of soil and climate conspire with an ancient

civilization, a unique social condition and a population so redundant as to make labor almost without value, and life without a higher aspiration than to live.

It has long been a favorite theory with political speculators that the nation which, for the time being, controls the trade of the East, practically controls the world. Sir Walter Raleigh reduced this principle to a formula, thus: "Whosoever commands the sea, commands the trade of the world,—whosoever commands the trade of the world commands the riches of the world, and consequently the world itself." "He who possesses Constantinople governs the world," said Napoleon I. This theory that the carrying trade of the East is the key of modern empire, has had the countenance of Dr. Robertson and other English writers to some extent, and has guided many of the conspicuous acts of the Bonaparte family in France. This was the star that lured the first Napoleon into Egypt, and it has so far influenced the career of Napoleon III., that a moment will not be misspent in considering the form assumed by the theory in the mind of that Emperor.

It will be remembered that Charles Louis Napoleon Bonaparte, before his election to the Revolutionary assembly of 1848, and his later election as President of the Republic, had made two several armed attempts upon the throne of France, each one of them as ill-advised as John Brown's raid into Virginia, though I never heard that the wily Frenchman was esteemed a madman on account of them. The first of these took place at Strasbourg, Oct. 30, 1825. And instead of dealing vigorously with it, the king, not feeling very firm upon his throne, and anxious to conciliate the enthusiasm which the name of the adventurer still roused throughout France, for he was about to bring back from St. Helena, with pomp, to Paris, the ashes of the mighty founder of that name, excused in

part the foolhardy adventure of the nephew, and sent him, in an armed vessel, to America. In May, 1838, the banished Bonaparte left this country for England, but not before thoroughly acquainting himself with the geography and civil polity of the States of America. At Boulogne, Aug. 6, 1840, he made his second attempt to seize the throne, having embarked by steamer from England with a written proclamation, a few followers, and a tame eagle, which was to typify the French Empire in this feeble melodrama. For this act he was incarcerated for life in the castle at Ham, from which he escaped in disguise six years later.

It will be seen, then, that the destined Emperor of the French enjoyed, between 1840 and 1846, six years of leisure in which to ponder upon his future,—his preconceived ideas of policy and war, and the knowledge he had obtained of the Western Continent. During this period he was in constant receipt of communications calling his attention to the brilliant future of the Central American States, and urging him, upon effecting his escape, to undertake the prosecution of public works, for connecting, by a ship channel at this point, the Pacific ocean with the Caribbean Sea. Immediately upon his flight from Ham in 1846, he put forth over the letters "L. N. B.," a pamphlet now included in his published works,—in which he shows that certain countries, "situated," as he says, "on the high-road of commerce, are destined, from their geographical position, to a high prosperity." He cites, for examples, Tyre, Carthage, Constantinople, Venice, Liverpool and London, as exhibiting "the astonishing spectacle of powerful states, springing suddenly from unwholesome swamps." Constantinople he describes as "the central point between Europe, Asia and Africa,—situated between two seas where she might have

fleets and dominion," and adds, "this is what the city of Constantine might be, but is not, because, as Montesquieu says, God permitted the Turks to exist, possessing uselessly a great empire."

Napoleon III. then develops the correlative proposition, as follows :

"A State exists in the new world as admirably situated as Constantinople, and as uselessly occupied—Nicaragua. As Constantinople is the centre of the old world, so is the town of Leon of the new; and if the tongue of land which separates the two lakes from the Pacific were cut through, she would command, by her central position, the entire coast of North and South America.

"Here is the shortest route for the United States to China and the East Indies, and for England and Europe to New Holland and the South Pacific. * * * * *

England will see with pleasure Central America become a flourishing and powerful State, which will establish a balance of power by creating in Spanish America enterprise powerful enough to prevent, by backing Mexico, any further encroachment from the North."

As late as 1858, and probably up to the time when the French designs upon Mexico began to unfold themselves, the Imperial mind still clung to the project of a Nicaragua Canal, to bear the name of Napoleon, and to be commanded at its mouth by French ships of war. Political as well as physical facts seem to have set their fiat against the fruition of his dream, and the adventurer turned his attention, after the failure of his Mexican and Central American designs, to the completion of the Suez Canal, by which he hoped to bring the largest Indiamen into the Mediterranean through the Gulf of Aden and the Red Sea. Should this plan succeed, and it has, I believe, the endorsement of the elder Stephenson and every pros-

pect in its favor, the wealth of the Indies may resume its ancient channel for a time, and Napoleon III. may yet live to see a share of the commerce of the East restored, by the successor of Charlemagne; to the Latin countries of Southern Europe.

Commerce among the ancients was a wholly different thing from the commerce of the modern world. It was confined mainly to the shores of the Mediterranean and rarely ventured beyond the pillars of Hercules. To the ports and cities of these shores it drew, to some extent, the wealth of the interior. To how limited an extent will be obvious, when we reflect that road-ways for transportation by carriages were unknown except in the immediate environs of the great cities,—and that the products of the country were brought for export to the sea, and the products of exchange returned, on the backs of camels, asses, oxen and men. Just so in Arabia to-day is brought out from the back country to Mocha that delicious coffee with which our townsman, Capt. Bertram, regales so many of the breakfast tables of the Union.

Of course, under such a system, only articles of small bulk and great value can be advantageously transported. The staples of modern commerce were then unheard of. Neither cotton, tobacco, sugar, coal, nor iron, were then subjects of freight, and breadstuffs only in limited and intermittent quantities. Trade was made tributary to the luxuries rather than the comforts of life, and gold, ivory, spices, marble for building and the arts, gums, jewels, silks and ornamental woods outranked in consequence the staple commodities. Thus Tyre, Carthage, Athens, Corinth, Coreyra, Byzantium and Rhodes grew great in turn upon the overland traffic of Asia and Africa which they carried across Europe, even at last so far as to barter for

the furs of Scandinavia and the tin of Britain. Thus Alexandria, planted by the Conqueror at the mouth of the Nile, controlled, under the Ptolemies, the trade of Africa. Thus Bâbylon under Alexander, and Palmyra under Solomon, both inland cities, but planted in the highway of Asiatic commerce, rose to the chief place among nations and again declined under the enervating influences of wealth and conquest.

The causes of commercial greatness operative among the ancients, continued to operate during the middle ages, and produced, in turn, the Italian Republics. Venice, Genoa, Florence, Pisa, held the carrying trade of the East, until the end of the fifteenth century, at which period they had introduced Public Banking, — Book-keeping by double entry, — Bills of Exchange, and a system of Funded Debt, — and the coins of Venice circulated from Iceland to Cathay. Two momentous events signalized the close of the fifteenth century. Spain had found her way to America in search of a new path to India, — Portugal had found a new path to India by doubling the African Cape. From this date the Mediterranean ports sunk in importance, and the vigorous peoples of northern Europe grasped their share of Eastern traffic, by following the Portuguese pioneers around the Cape of Good Hope. During the sixteenth and seventeen centuries the Dutch were carriers for the rest of Europe, and the English superseded them in the eighteenth. And now the ambitious formula of Sir Walter Raleigh was by no means forgotten. In 1787 Sir John Dalrymple, uneasy that Spain should hold, — still more uneasy lest the United States might thereafter hold — the Isthmus of Darien, wrote thus on the subject in a work whose significant motto was :

*Regique hoc dicite vestro, —
Non illi imperium pelagi!*

a prototype, it would seem, of that familiar refrain to which, at last. Americans can listen with composure :

Rule, Britannia ! Rule the waves !
Britons never will be slaves.

The Englishman writes as follows :

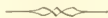
"But if neither Britain singly, nor the maritime ports of Europe jointly, will treat with Spain for a passage across Darien, it requires no great gift of prophecy to foresee, that the period is not far distant when, in order to procure the precious metals at once, the States of America will seize upon that pass with ease, wresting it from the feeble violence of Spain. * * * * * Their next move will be to take possession of the Sandwich Islands, discovered by the immortal Cook.

"Stationed thus in the middle and on the east and west sides of the new western world the English-Americans will form not only the most potent but the most singular empire that has ever appeared ; because it will consist in the dominion not of a part of the globe but of the whole ocean. For, on the one side of the new continent, from the Sandwich Islands, they may, by turning a little to the south, run on the trade wind to the East Indies, or, by turning less than twenty degrees north, run on the great west wind, which blows here ten months out of the twelve every year, to the coast of Mexico, by which the gold of the East and the silver of the West will be within their reach.

"From Darien they will sail to China ; from China to India ; from India to Chile, and from Chile by the south land wind, which never varies, to Darien ; that is, they will make the tour of the Indian and Southern seas, everywhere collecting wealth by trade, in a little more time than it takes for the voyage from London to Venice.

* * * On both sides of the continent, during the wars of Europe, they will enjoy as neutrals the carrying trade from Europe to the one side, and from India to the other side of the new world; even in peace they may engross the India trade." * * * Without recourse to that violence which Sir John Dalrymple so much apprehended, the dreaded Americans will soon have accomplished all that he foresaw. We now enjoy the free passage of the Isthmus of Darien by rail, and silks from China as well as the precious metals of Australia and California have come that way. Recently a treaty has been concluded securing to us the long coveted ship-canal through the Isthmus of Darien. We already reap the benefit of commercial treaties with China and Japan,—of friendly relations with Mexico and Spanish America, and of growing intercourse with all these states in every department of exchange and trade. Protections were issued at this port, some years ago, to several Essex County fishermen, who were on their way to the Sea of Japan, to establish there with schooners to be built at San Francisco, that nursery of wealth and enterprise which has contributed untold millions to our material prosperity,—the New England Fisheries. Steam whalers from New England ports are ploughing the icy currents of the North Pacific. By the timely acquisition of the Russian Possessions in America, we have done much to protect ourselves against the jealousy which the possession of so extraordinary a naval station as the Bay of San Francisco, and the completion of a railroad across the continent will soon excite. Steam mail communication is already established upon the Pacific, and we hardly anticipate events in declaring that the East India Trade, as known to the Derbys and to the Marine Society—that mighty impulse which built up the cities of Hol-

land and England and America, and Salem among the number, is dead, and that the products of the East will hereafter find their way to Europe and America, not by the Cape of Good Hope, but through other channels.



REGULAR MEETING, MONDAY, SEPTEMBER 5, 1870.

THE President in the chair. Records of preceding meeting read.

After adopting a plan of arrangements for the annual Horticultural Exhibition, and the transaction of some other business, the President announced the death of our Ex-President, the Hon. ASAHEL HUNTINGTON, of Salem, which occurred at his sea-side residence in Beverly, this forenoon, after a brief illness.

Mr. H. was the second son of the Rev. Asahel Huntington, the much respected pastor, for many years, of the church in Topsfield; in that town the subject of our notice was born, July 23, 1798. He was descended from the old Puritan stock which settled in Connecticut in the early period of our history, both on the paternal and the maternal side. His father was born in Franklin, Conn., where the family resided for several generations and tilled the same acres, and took a prominent position in the church, performing the duties of some of its most important offices. His mother, Althea, was the daughter of Dr. Elisha Lord, a celebrated physician of Abington, Conn., and a grand-daughter of Rev. Hezekiah Lord, a noted preacher of his time. Inheriting the traits of character peculiar to these worthies of the olden times, he became a very useful member of the Tabernacle society in this city; to them his loss must be very great.

He was fitted for college at Phillips Academy, Andover, and was a graduate of Yale College in the class of 1819. He always took a lively interest in those two institutions, frequently attending the annual commencements, and ready to coöperate in all measures tending to the extension of their usefulness in every direction.

He commenced his legal studies in Newburyport and completed them in Salem, being admitted to the bar in March, 1824. He commenced practice in this city, and his appearance in the courts has always been marked by distinguished energy and ability. He held the offices of County Attorney and of District Attorney for many years, and, since 1851, has been the Clerk of the Courts for Essex County.

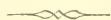
He was always ready for every good cause, and shrank from no

duty imposed upon him by his fellow citizens. As early as 1827 he was chosen a Representative to the General Court, long served as School Committee, was a member of the Constitutional Convention in 1853, Mayor of the city one year, President of the Essex Institute from 1861 to 1865, and President of the Naumkeag Steam Cotton Company. He was always an advocate of the Temperance Reform, and was frequently called upon to take a prominent part in measures of public policy, political, moral, educational and local, that are brought to the notice of the people. We shall miss his genial presence and his hearty greeting in the walks of life; his active habits and the frequent occasions in which he has been called upon to give his services have made him generally known to our citizens, and very widely throughout the county and state.

After remarks from several members it was

Voted: That Messrs. Allen W. Dodge, Abner C. Goodell, Jr., and James Kimball be a committee to report at an adjournment a series of resolutions in respect to the memory of the deceased, and what other action it is appropriate to take.

Adjourned to meet on Friday next (Sept 9). at 3 P.M.



ADJOURNED MEETING, FRIDAY, SEPTEMBER 9, 1870.

The President in the chair.

Hon. A. W. DODGE of the Committee on Resolutions, reported the following, which were adopted after suitable expressions of respect to the memory of our deceased friend.

Resolved, That the Essex Institute receives the tidings of the death of ASAMEL HUNTINGTON, a former President of this society, with emotions of grief and surprise. The suddenness of the event, which even if his illness had been of longer duration would have been unlooked-for because of the general good health and strength of the deceased, is as impressive as the knowledge of the loss of a member of society so useful, so widely known and respected.

Resolved, That this society acknowledges its indebtedness to the deceased for the interest he manifested in its success, and for the services rendered by him while chief presiding officer; and that as his fellow citizens, the members of the Institute bear testimony to his uniform urbanity, his great industry and his devotion to so many objects conducive to the public good.

Resolved, That the Hon. Otis P. Lord be invited to prepare a memorial address upon the life and character of the deceased, to be read at a meeting of the Institute.

Resolved, That this society express its sympathy for the family of the deceased in their bereavement, by communicating to them a copy of these resolutions; and that the same be recorded by the secretary.



FIELD MEETING AT METHUEN, THURSDAY, SEPT. 15, 1870.

THE last Field Meeting of the present season was held at Methuen, this day, and was well attended. An extra train at 9.15 A.M., from Salem to Lawrence, carried the principal portion, and others went by the regular 11.35 train. From Lawrence to Methuen the street railway cars were the means of conveyance.

Methuen is a pleasant and flourishing town on the north bank of the Merrimack River, and was formerly comprised within the limits of Haverhill.

In 1725, on petition of the inhabitants, an act of incorporation was passed constituting the west part of Haverhill a distinct township under the name of Methuen. The name is presumed by some to be derived from Lord Methven, and is the only town in the United States, and probably in the world, bearing this name. The origin of this name, and why it should have been adopted, are interesting subjects for the local historians to investigate. There is a parish of Methven in Perthshire, Scotland, in which Methven castle and the estates of the Lords of Methven are, or were, located. The surface of the township is undulating, with a pleasing variety of hill and dale. The soil is generally very good. The Spicket River flows through the town and has a fall of thirty feet which furnishes a good supply of water power for manufacturing purposes, and around which has grown up a thriving and active village. Like many of the flourishing towns of the Commonwealth, it commenced on a small scale, but among the first things upon which action was taken at the original town meeting were the interests of religion and education. And the town has always since been noted for its liberal support of the church and the school-house. The High School, now under the charge of Mr. H. C. Hallowell, is maintaining an excellent standing, and the common schools of the eight districts are doing a good work in educating the young. There are four churches in the town: Congregational, Rev. M. G. Grassie, pastor; Baptist, Rev. N. M. Williams; Universalist, Rev. C. A. Bradley; and Methodist, Rev. James Noyes. One of the principal industrial interests of the town is the manufacture of hats: three large factories are devoted to this enterprise, and daily produce from seventy-five to one hundred and twenty-five dozen hats each. The Methuen Cotton Mill is being considerably enlarged, and is an

important item in the material prosperity of the town. The addition when completed will give employment to some hundreds more operatives than the present number. Other productive industries are also well sustained, and the stranger, on his first visit, will be favorably impressed with the general busy aspect prevailing throughout the town, whether in passing the extensive and well cultivated farms on the outskirts, or the workshops and stores in the business centre. The people are intelligent, active and enterprising. Hence the visit on Thursday was highly enjoyed by the Institute party.

On the arrival of the company at the Town Hall, a cordial welcome was extended by Messrs. Joseph How, William M. Rogers, Charles Ingalls, and other citizens, who were active in promoting the objects of the meeting, and in extending other courtesies.

Little parties were made up to visit the various points of special interest. Many ascended Currant's Hill to obtain an extensive view of the Merrimack Valley. From this elevated spot the prospect is grandly majestic; we see the distant mountain ranges stretching far off until the eye loses its power to trace even the shadowy outlines, and nearer, the many villages nestling in the valleys, between the heights covered with giant trees; and almost at our feet the beautiful Merrimack rolls along, and we look up on the right and see a ravine view with its arched bridge, unsurpassed in beauty; on the left the busy city of Lawrence, with its extensive manufacturing establishments, its numerous churches and other public buildings, all lending a peculiar charm to the whole scene. The Lawrence and Manchester Railroad track runs directly through this hill, and at the time it was constructed, the several strata of which the hill is composed were plainly traceable.

A few of the visitors, through the kind attention of Charles Ingalls, Esq., were taken to Tower Hill, and visited the farm of Mr. Levi Emery, with its observatory, from which a still more extended view may be enjoyed. Mr. Emery is actively interested in the Essex Agricultural Society, and the members of that society will not be surprised to see it stated that from a few acres of land which were almost valueless ten years ago, Mr. Emery now raises squashes inferior to none, grapes of finest flavor and beauty, strawberries in great quantities, cabbages of excellent size and quality, lettuce whose fame has attracted the first-class hotel proprietors of New York, and indeed almost every variety of vegetable, of superior quality; all on this lately barren hill, nearly three hundred feet above the level of the Merrimack River. Mr. Emery has seventeen hundred grape-vines now loaded with ripe fruit, and two thousand more vines not yet come to bearing. He has introduced a system by which he can furnish lettuce in February as fine and nice as at any other season of the year. His farm is well worth a visit from all interested in that spirit of en-

terprise which enhances the value of land and makes practically useful something that was before of no real benefit. He is conferring a vast good on the community, and we wish him continued prosperity.

Others of the party visited the hat factories of Messrs. Bowen & Emerson, Tenney & Co., and Chas. Ingalls & Son. We were indebted to Mr. Emerson, of the first named firm, for an escort through their extensive manufactory, and were much interested in the successive processes through which the material passes, from the wool to the finished hat. First the wool is scoured or washed; it then goes to the carding machines, whence it is delivered on cones, each cone containing the germ of two hats; the next process hardens them; the next is technically called planking or felting, but we should call it shrinking, and here they begin to assume the appearance of wearable hats, while before this process an outsider would have no suspicion of the use intended for them; they are then blocked, colored, blocked again, dried, stiffened, finished and trimmed, ready for boxing and sending to market. Different sets of operatives are engaged in the different processes, and about ten days are generally required to complete a "batch." As all parts of the work are going on at a time, each day develops about one hundred dozen of the finished hats. Methuen and its mother town of Haverhill both have a good name for their manufactures in this department.

Many of the visitors went into the elevated tower of the Congregational Church, and the pastor pointed out the many objects comprised in the extensive prospect from that position.

The Falls attracted others, but the severe drought of the season had robbed this "lion" of his flowing mane, and they were disappointed; a member of the local committee of reception assured them, however, that if they would call next spring, they could stand here and think of Niagara.

Other features of the town were also visited and enjoyed, and the time was well employed in various interesting rambles and researches. At 1.30 P.M. all met at the Town Hall for the collation, and the excursionists were happy to find that many of the townspeople had brought their provision baskets to unite in a common, social lunch. They had also provided an abundance of hot coffee and tea, fruit, &c., and the collation proved one of the most agreeable features of the day.

At 3 o'clock, Henry Wheatland, the President of the Institute, called the meeting to order, and Mr. F. W. Putnam was requested to act as Secretary, in the absence of that officer.

The records of the preceding meeting were read.

The Secretary announced the following correspondence:—

Abbot, T. C., Lansing, Mich., Aug. 25; Allen, B. R., Marblehead, Sept. 12; Andrews, W. V., New York, Aug. 10; Banvard, Joseph, Boston, Aug. 31; Buffalo His-

torical Society, Aug. 14th; Felt, N. H., Salt Lake City, Utah, Aug. 2; How, Joseph, Methuen, Aug. 22, Sept. 8; Johnson, A. H., Bradford, Aug. 2; Lander B. W., Peabody, Aug. 22; Lord, Otis P., Salem, Sept. 12; Loring, Geo. B., Salem, Sept. 6; Morgan, Geo. E., Beverly, Aug. 29; Morissey, John, Plymouth, Aug. 23; Nelson, S. A., Georgetown, Mass., Sept. 12; New England Historic-Genealogical Society, Aug. 13; New York Historical Society, Sept. 1; New York State Library, Albany, N. Y., Sept. 7; Poole, W. F., Melrose, Aug. 10, 30; Proctor, Thomas E., Peabody, Aug. 29; Robinson, John, Boston, Sept. 12; Ross, A., Boston, Aug. 31; Roundy, H., Salem, Aug. 25; Schouler, Wm., Boston, Sept. 8; Steiger, E., New York, Aug. 9; Tracy, C. M., Lynn, Aug. 12.

The Librarian reported the following additions to the Library:—

By Donation.

ALLEN, B. R., of Marblehead. Address before the Mugford Fire Association of Marblehead, May 17, 1896, by the donor, 8vo pamph.

CHAMBERS OF COMMERCE of New York. Annual Report, 1869-70, 1 vol. 8vo. N. Y., 1870.

CHILD, HAMILTON, of Syracuse, N. Y. Orleans County Directory, 1869, 1 vol. 8vo. Cayuga County Directory, 1869, 1 vol. 8vo. Wayne County Directory, 1867-8, 1 vol. 8vo. Oneida County Directory, 1869, 1 vol. 8vo. Rensselaer County Directory, 1870-71, 1 vol. 8vo. Chenango County Directory, 1869-70, 1 vol. 8vo. Onondaga County Directory, 1868-9, 1 vol. 8vo. Chemung and Schuyler County Directories, 1868-9, 1 vol. 8vo. Genesee County Directory, 1869-70, 1 vol. 8vo. Wyoming County Directory, 1870, 1 vol. 8vo. Tompkins County Directory, 1868-9, 1 vol. 8vo. Niagara County Directory, 1869, 1 vol. 8vo. Cortland County Directory, 1869, 1 vol. 8vo.

FELT, N. H., of Salt Lake City. Bird's Eye View of Salt Lake City, Utah Territory, 1870.

FOOTE, H. W., of Boston. A Sermon, May 29, 1870, by donor, 8vo pamph. A Discourse on the death of George Peabody, by donor, 8vo pamph.

FORSTER, EDWARD J., of Charlestown, Mass. The Pedigree and Descendants of Jacob Forster, Sen., of Charlestown, Mass., 12mo pamph., 1870.

HART, HIRAM S., of Burlington, Vt. Burlington City Directory, including Winoski Falls, from July, 1866, to July, 1868, and July, 1869, to 1870, 3 vols. 12mo.

HATHWAY, S. W., of Boston. The Church and the World, 12mo pamph.

HOTCHKISS, MISS SUSAN V., of New Haven, Conn. New Haven Directory, 1867, 1 vol. 8vo.

JOHNSON, HENRY D. Trans-Continental Excursion, Boston to San Francisco, May 23 to July 1, 1870, 1 vol. small 4to.

LEE, JOHN C. Commercial Bulletin for July and August, 1870.

MACK, MISS ESTHER C. Salem Register from 1861 to 1868 inclusive, 8 vols. folio.

MANNING, ROBERT. Miscellaneous pamphlets, 34.

MILLER, HARRISON V., of Syracuse, N. Y. Syracuse Directories, 1862-3, 1864-5, 1866-7, 1868-9, 1870, 5 vol. 8vo.

POOL, WELLINGTON, of Wenham. Valuation of the town of Wenham, 1860. Report of the Selectmen of Wenham from 1860 to 1870, inclusive. Report of the School Committee of Wenham from 1857 to 1870 inclusive.

PITNAM, F. W. History of Essex County, N. Y., 1 vol. 8vo. Albany, 1869.

SCHOULER, WM., of Boston, Mass. Congressional Globe, 1865-66, Parts 1, 2, 3, 4, 5, 1866-7, Parts 1, 2, 3 and appendix, 9 vols. 4to.

SEYMOUR, CHARLES J., of Binghamton, N. Y. Miscellaneous pamphlets, 7.

SILAS BRONSON LIBRARY of Waterbury, Conn. Catalogue, 1 vol. 8vo, 1870.

- STICKNEY, M. A. "The Sunrise," Presque Isle, Me., 1869, 1 vol. folio.
- SUMNER, CHARLES. Washington. Monthly Agricultural Report, July, 1870.
- THAYER, OLIVER. Miscellaneous pamphlets, 15.
- UNKNOWN. Annual Report of the State Geologist of New Jersey for 1869. 8vo pamph., Trenton, N. J., 1870. Catalogue of Rutgers College, 8vo pamph. New Brunswick, New Jersey. Agricultural College Reports and Annual Lecture, 1869, 2 pamphlets, 8vo.
- VALENTINE, MISS MAGGIE. Miscellaneous pamphlets, 11.
- WATERS, H. F. Boston Directory, 1865, 1 vol. 8vo.
- WATERS, J. LINTON. of Chicago, Ill. Pamphlets, 5.
- WILLARD, JOHN H., of Troy, N. Y. Catalogues of the Troy Female Seminary, 1850 to 1870, inclusive, 16 pamphlets, 8vo.
- WORCESTER COUNTY MECHANICS' ASSOCIATION. Annual Reports, April, 1870.

By Exchange.

- AMERICAN ENTOMOLOGICAL SOCIETY, Transactions of. Vol. 3, No. 1.
- BIBLIOTHEQUE UNIVERSELLE ET REVUE SUISSE. Archives des Sciences Physiques et Naturelles, No. 150, Juin 15, 1870.
- BOSTON NUMISMATIC SOCIETY. American Journal of Numismatics and Bulletin of, for July, 1870.
- BOSTON PUBLIC LIBRARY. Class List for Poetry and Miscellaneous Works.
- BOSTON SOCIETY OF NATURAL HISTORY. Proceedings of. Vol. xiii. Sig. 18, August, 1870.
- IOWA STATE HISTORICAL SOCIETY. The Annals of Iowa for July, 1870. Seventh Biennial Report of the Curators. 8vo pamph., 1870.
- KONGELIGE DANSKE VIDENSKABERNES SELSKAB. Oversigt over det Kongelige danske Videnskabernes Selskabs Forhandlinger og dets Medlemmers Arbejder i Aarene, 1869.
- KÖNIGLICHE PHYSIKALISCH—ÖKONOMISCHE GESELLSCHAFT ZU KÖNIGSBERG. Schriften der Königl. physikalisch. ökonomischen Gesellschaft zu Königsberg. 1869, 2 pamphlets, 4to.
- MICHIGAN STATE AGRICULTURAL COLLEGE. Catalogue of the Officers and Students of. 1870.
- MICHIGAN STATE BOARD OF AGRICULTURE. Eighth Annual Report of the Secretary, 1 vol. 8vo. Lansing, Mich., 1869.
- NATURFORSCHENDEN VEREIN IN BRÜNN. Verhandlungen des Naturforschenden Vereines in Brünn, Band vii, 1868.
- NATURHISTORISCHE GESELLSCHAFT. Achtzehnter und Neunzehnter Jahresbericht der Naturhistorischen Gesellschaft zu Hannover von Michaelis, 1867, bis dahin 1869.
- SOCIÉTÉ VANDOISE DES SCIENCES NATURELLES. Bulletin de la Société Vandoise des Sciences Naturelles, vol. x, No. 62.
- VERZEICHNISS AUSGEWÄHLTER. Werke Aus dem Verlage von F. C. W. Vogel in Leipzig, 1870.
- PUBLISHERS. American Literary Gazette. American Naturalist. Book Buyer. Canadian Naturalist. Christian World. Cosmos. Eclectic. Essex Banner. Gardeners' Monthly. Gloucester Telegraph. Haverhill Gazette. Historical Magazine. Land and Water. Lawrence American. Literary World. Little Giant. Lynn Reporter. Medical and surgical Reporter. Nation. Nature. Peabody Press. Salem Observer. Semi-monthly Visitor. Silliman's Journal. Sotheman's Catalogue. The American Chemist. The Lecture Season. The Weekly Public Spirit. Quaritch's Catalogue.

BULLETIN

OF THE

ESSEX INSTITUTE.

VOL. 2. SALEM, MASS., NOV. AND DEC., 1870. Nos. 11, 12.
One Dollar a Year in Advance. 10 Cents a Single Copy.

FIELD MEETING AT METHUEN, THURSDAY, SEPT. 18, 1870.

[*Concluded from page 160.*]

After a few general remarks from the PRESIDENT, alluding to this first visit of the Institute to the town, Mr. F. W. PUTNAM was called upon as the first speaker. He spoke of the dry time as illustrated by the present state of the Spicket River, and the swamps about the pond. He selected as the theme of his remarks some Indian stone implements which some one had placed upon the stand. He urged the importance of making collections of these aboriginal relics as a means of tracing the progress and movements of the several Indian tribes. Their line of migration could be traced by finding the particular kind of stone of which the articles were made, and then comparing a large number of these relics gathered in different sections of the country. He then described the several implements which were either donated or placed on the table for exhibition, as hatchets, arrowheads, sinkers for nets, knives and grain pestles.

Rev. N. M. WILLIAMS, of Methuen, made a short speech, in which he spoke of the pleasure with which the people welcomed the Institute to that town; and, alluding to the name of the place, said it was supposed to be named after a certain Lord Methven, which easily became Methuen.

Prof. E. S. MORSE, of Salem, compared the manufacture of hats, which had been witnessed by most of the party, to the formation of the egg, and traced, in his usual happy manner, the modification or change of condition which each had undergone in its development.

He took up and described some fresh water clams, which had been found during the forenoon, and explained their difference from the common salt water clams.

Rev. T. G. GRASSIE, of Methuen, alluded to the reputation of Essex County, and spoke of the necessity of the meetings of the Institute being held in the same place often, and the oftener the more successful. He thought that these meetings were just what was needed. He alluded to science and religion, and said that as a religious man he did not fear science, for if there was anything in religion that science could correct, it should be corrected. He mentioned a new machine now in operation in this town for making wheels, and spoke of its great utility.

Mr. C. M. TRACY, of Lynn, in speaking of the pleasure it gave him to visit Methuen, said that he was convinced that a plain, unpretending New England town often had more of comfort and thrift in it than many other places which were dignified by the name of cities. Proceeding to examine the botanical specimens on the table, he remarked that the *Sarracenia*, or Pitcher Plant, fine samples of which lay before him, was one of the most remarkable things to be found among our vegetation. Differing so largely from all other plants as to constitute a separate family of its own, it included only one or two genera and a few species, real eccentrics of the floral world. One species is with us, another in the South, a third, of a different genus, in South America, but there are not many more. The vase-form leaves are a constant character, and it is no small problem among the scientific, to find how it happens that they are always supplied with water even in the severest drought. Such a drought is now raging, almost without precedent, yet the friend who brought these found them half full, while the peat moss around them was so parched as to crackle under the feet. It is always so. It is plainly no catching and saving of rain, for none has fallen. Some have thought it a secretion from the plant itself; but the speaker inclined to ascribe it to the condensation of dew on the upper part of the leaf, running down to supply the tank below, which is kept cool for the purpose by the slow evaporation through the permeable sides. But any way considered, it is a beautiful and curious plant, wholly American, and fitly known as the Huntsman's or Forefather's Cup.

In exploring about the Falls to-day he had found some good specimens of the Blue Gentian (*G. Andrewsii* or *saponaria*). This is not the lovely Fringed Gentian of Bryant's well known poem, though it comes at the same season and is almost as beautiful. This species, as well as one or two others, is remarkable for never expanding its flowers; so that what appear here as full grown buds are rarely per-

fect blossoms, never exposing the interior organs. All our Gentians are blue, but in other lands there are red species, and a splendid yellow one (*G. lutea*) in Central Europe, whose root is an important medicine, intensely bitter in taste.

Perhaps the most remarkable thing brought forward in this line to-day, was a huge cluster of orange-colored fungi, detached in one mass from the decayed wood, where they grew, and served up in a dish like a pile of tempting cream cakes. The speaker disclaimed the critical knowledge of those that would enable him to give the exact name; but as to their general character there could be no question. These are plants of exceeding simplicity of structure, whose proper framework and growth consist of mere tubular, branching cells, running every way through the decaying substances where they seat themselves, and interlacing to a plexus little inferior to the felt of a Methuen hat. From this living felt, or *mycelium*, rises, here and there, a bud-cell, growing often to a great size, and developing, for floral and reproductive purposes, to such strange and curious forms as we see in the mushrooms of the table, and in these fungi of to-day, and ten thousand others beside. We generally suppose the toadstools we see are the whole plants; but really they are only the flowers or what answers therefor. Thus will be seen the real explanation of another botanical puzzle. Fungi having been found to evolve carbonic acid, while plants in general give off oxygen, it was inferred that their economy was of the reverse order, and that they were peculiarly deadly in their character, and nourished by decay and corruption. But when we look at them as only the flowers of a concealed vegetation, we remember that all expanded flowers thus yield carbonic acid, while the oxygen is only thrown off by the green leaves, and only very slightly where there are none of these, as in broomrapes and parasitic-dodders. So the anomaly vanishes and the constitution of these singular things is found to be much the same as in other vegetation. To any one at all conversant with vegetable chemistry, it would be a mystery indeed, how a plant with greater power of development than we see anywhere else, built up of just such cells, and these of the same chemical substance as in other plants, should not show the same results from its vital processes in other respects as they. And thus, also, very much disappears from that character of gloom and deadliness that so many have been prone to ascribe to these innocent plants. It is not, indeed, true, that they feed more than others upon decay; the farmer nourishes his choicest crops with as corrupt matter as ever fed a fetid toadstool, and we think no harm of it. The glossy gold-thread and the fragrant twinflower prefer as deep shadows as these, but no one thinks them deadly. The whole of this talk about associating fungi, and death, and charnel-houses, is but a relic of the old

time superstition, and of that ignorance which it is the blessed mission of "Star-eyed Science" to counterwork and dispel.

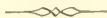
The PRESIDENT alluded to this town as the birthplace of Judge White, the first President of the Institute, who held the office from its organization in 1848 to his decease in 1861, and who was one of its most liberal contributors, having donated, at several times, nearly 8000 volumes to the library; he called upon Rev. T. T. STONE, formerly of Salem, who made a brief response, bearing testimony to his excellence and worth.

Mr. PUTNAM exhibited a dress, presented to the Society by Mrs. Tyrrel of Methuen, which probably had been made by the Indians of the Northwest coast of America. He read a circular from Prof. C. H. Hitchcock, of Hanover, N. H., soliciting aid from all friends of scientific research and mountain explorations, to enable Prof. J. H. Huntington, Assistant Geologist of the State of New Hampshire, and his associates, to spend the next winter (1870-1) upon the top of Mount Washington, with all the needed comforts of life, the proper instruments, and the means of communicating by telegraphic cables daily reports of their observations. He remarked upon the importance of the proposed expedition, and commended its claims upon the public.

Brief remarks were then made by Messrs. Chas. Ingalls, Joseph How, and others of Methuen.

After unanimously adopting the following resolutions, the meeting adjourned.

Resolved, That the thanks of the Essex Institute be tendered to the Selectmen of Methuen for the use of the Town Hall; also to Messrs. Joseph How, Wm. M. Rogers, Charles Ingalls, Samuel G. Sargent, John Low, Ebenezer Sawyer, E. A. Archibald, Albert Dame, Rev. Messrs. C. A. Bradley, James Noyes, T. G. Grassie and N. M. Williams, Mrs. Williams, Mrs. Grassie, the Misses How and the Misses Barker, and other ladies and gentlemen who have aided in giving interest to the meeting this day.



REGULAR MEETING, MONDAY, OCTOBER 3, 1870.

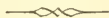
President in the Chair.

T. P. Abell and David Wentzell, both of Salem, were elected resident members.

REGULAR MEETING, MONDAY, NOVEMBER 7, 1870.

President in the Chair.

Edward D. Ropes and William G. Webb, both of Salem, were elected resident members.



QUARTERLY MEETING, WEDNESDAY, NOVEMBER 9, 1870.

President in the Chair.

The following amendment to the constitution having been submitted at the annual meeting in May, and the quarterly in August, was unanimously adopted.

Instead of Article 1, substitute the following:—"Article 1:—The objects of the ESSEX INSTITUTE are the collection and preservation of materials for the Civil and Natural History of the County of Essex, and the advancement of Science, Literature, and the Arts."

Miss Lucy Larcom of Beverly, Charles H. Goss, Isaac M. Gattman and George R. Harris, all of Salem, were elected resident members.



REGULAR MEETING, MONDAY, DECEMBER 5, 1870.

The first evening meeting of the present season was held at the rooms in Plummer Hall. The President in the Chair.

Records of preceding meeting read.

The Secretary announced the following correspondence:—

Abell, T. P., Salem; Ames, James T., Chicopee, Oct. 1; Ames, R. W., Boston, Oct. 14, 17; Andrews, Wm. P., Salem, Aug. 18; Appleton, Francis H., West Peabody, Oct. 7; Ball, Mary F., Presidio, Oct. 15; Bergen Museum, Oct. 1; Bolles, E. C., Brooklyn, Sept. 30; Boston Public Library, Nov. 29; Brooks, H. A., Salem, Oct. 21; Brooks, W. G., Boston, Nov. 17; Buffalo Historical Society, Oct. 28, Nov. 14; Calkins, W. W., Chicago, Ill., Oct. 20; Chamberlain, James A., Salem, Oct. 9; Chipman, R. M., Ware, Mass., Oct. 11; Choate, Abby P., Salem, Nov. 11; Cogswell, Geo., Bradford, Nov. 25; Edgerly, Albert W., Lynn, Nov. 12; Endicott, Robert R., Beverly, Oct. —; Emery, Geo. E., Lynn, Oct. 18; Gattman, J. M., Salem, Nov. 18; Goss, Chas. H., Salem, Nov. 14; Higbee, Chas. H., Boston, Sept. 22; Iowa Historical Society, Nov. 19; Johnson, A. H., Bradford, Oct. 13, 19; Kongelige Danske Videnskabsnernes Selskab, Nov. 5; Larcom, Lucy, Beverly Farms, Nov. 5, 21; Lincoln, S., Jr., Salem, Oct. 13; Loring, A. K., Boston, Nov. 2, 4, 7, 17; Lath, M., Cincinnati, Nov. 2, 3; Maine Historical Society, Nov. —; Massachusetts Historical Society, Nov. 26; Minnesota Historical Society, Sept. 30, Oct. 20; Moravian Historical Society, Nov. 18; Munsell, Joel, Albany, N. Y., Oct. 24; New England Historical-Genealogical Society, Oct. 27, Nov. 24; New York Genealogical Society, Nov. 11; New York Lyceum of Natural History, Oct. 4; New York State Library, Sept. 7, 19,

22, Nov. 5; Pickering, Mary O., Salem, Oct. 15; Pingree, David, Salem, Sept. 9; Preble, Geo. H., Charlestown, Nov. 21; Rhode Island Historical Society, Nov. 3; Ropes, Edward D., Salem, Nov. 17; Silliman, B., New Haven, Oct. 28; Silsbee, J. L., Salem, Sept. 5; Simonds, J. R., Salem, Sept. 24; Seymour, C. J., Binghamton, N. Y., Sept. 9; Upham, W. P., Worcester, Mass., Nov. 17; White, W. O., Keene, N. H., Sept. 15; Wiggin, John K., Boston, Oct. 15; Woolsey, Theodore D., New Haven, Nov. 23; Woodward, A., Franklin, Conn., Nov. 16.

The Librarian reported the following additions:—

Donations.

APPLETON, WM. S., of Boston. Ancestry of Priscilla Baker, 1 vol. small 4to, Cambridge, 1870. Genealogy of the Collin Family in New England, svo. pamph. Description of a Selection of Coins and Medals in America, svo pamph.

BARLOW, JOHN. Legislative Documents of Mass. for 1870, 3 vols. svo. Miscellaneous pamphlets, 41.

BROOKS, HENRY M., Medical and Agricultural Register, 1 vol. svo. Letters on American Slavery, 1 vol. 16mo. Miscellaneous pamphlets, 3.

BROWNE, ALBERT G., Miscellaneous pamphlets, 120.

BROWN, EDWARD. Lynn Weekly Mirror for 1825-6, 1 vol. folio.

CALLER, JAMES M., Thirty-two Guide Books to places in Europe.

CHAMBERLAIN, JAMES A., Miscellaneous pamphlets, 215. Flint's Geography, 1 vol. svo, Boston, 1833. New York Gazetteer, 1 vol. 12mo. Albany 1812, Miscellaneous vols., 13.

CHAMBERS, ROBERT B., of Providence, R. I. Commemorative Discourse in Providence, Oct. 18, 1868, by James G. Vose, Pastor, 1 vol. 12mo.

CITY OF PROVIDENCE. Providence City Documents, 1869-70, 1 vol. svo.

CLOETMAN, WM. R., of Charleston, S. C. Report on Agriculture, for 1868, 1 vol. svo, Washington, 1869. United States Coast Survey for 1867, 1 vol. 4to, Washington, 1869. Land Office Report for 1868, 1 vol. svo. Report of the Select Committee on the Memorial of Davis Hatch, June 25, 1870, 1 vol. svo, Washington. Also several pamphlets.

EMERY, GEO. E., of Lynn. Almanac and Register for 1757, 1 vol. 12mo, Dublin. Farmer's Almanacks from 1833 to 1858, and several Manuscript Papers.

FOOTE, CALEB. Files of several County papers for Aug., Sept., 1870.

GREEN, S. A., of Boston. Report of the School Committee of Boston for 1869, 1 vol. svo. Miscellaneous pamphlets, 105.

HALL, B. H., of Troy, N. Y. Daily Programme of the 19th Meeting of the American Association for the Advancement of Science held at Troy, N. Y., 1870, 12mo. pamph.

HAMMOND, CHARLES, of Springfield, Mass. Catalogue of Monson Academy for 1870, svo. pamph.

HAWKES, N. M. Water Report of Lynn for 1870, 1 vol. svo.

HOBART, Mrs S. Cox's View of America, 1 vol. svo. Phila., 1795.

HYATT, A. Texas Almanac for 1870. Miscellaneous pamphlets, 70.

KNIGHTS, B. R. The Independent for 1855-6-7, 1830-61 and 1862-63, 3 vols. folio.

LEE, JOHN C. Commercial Bulletin for Sept. and Oct., 1870.

LINCOLN, SOLOMON, of Boston. Centennial Anniversary of the Town of Cohasset, May 7, 1870, svo. pamph.

MACK, WM. Miscellaneous pamphlets, 18.

MOULTON, HENRY P., of Beverly. Legislative Documents of Mass., for 1870, 4 vols. svo.

MUNSELL, JOEL, of Albany. Transactions of the Albany Institute, vol. iii, vi, 2 vols., Albany, 1855, 1870. Troy Directory for 1860, 1 vol. 12mo. Schenectady

Directory for 1860-61, 1 vol. 12mo. Hudson Directory for 1851-52, 1 vol. 16mo. New York City Directory for 1853-54, 1 vol. 16mo. Fall River Directory for 1859, 1 vol. 16mo. Taunton Directory for 1861, 1 vol. 16mo.

PACKARD, A. S. Miscellaneous pamphlets, 12.

PARSONS, C. W., of Providence, R. I. Memoir of Usher Parsons, M. D., of Providence, by the donor. 1 vol. 12mo, 1870.

PERKINS, GEO. A. Address of Mr. Everett, and Poem of Dr. O. W. Holmes, at the dinner given to H. I. H. Monseigneur, the Prince Napoleon. Sept. 25, 1861. 1 vol. 12mo, Cambridge, 1861. Miscellaneous pamphlets, 108.

PEYTON, JOHN LEWIS, of London. Over the Alleghanies and across the Prairies. 1 vol. 12mo, London, 1869.

PICKERING, MARY O. Almanacs from 1733 to 1811.

PIERSON, G. H. Legislative Documents of Mass. for 1867-68, 4 vols.

POOLE, WM. F., of Cincinnati, Ohio. The Witchcraft Delusion of 1692, by Gov. Thomas Hutchinson, with notes by the donor, small 4to, Boston, 1870. Forty-first Annual Report of the Common Schools of Cincinnati, June 30, 1870, 8vo pamph.

PREBLE, G. H., U. S. N. Genealogical Sketch of the Preble Family in America. 1 vol. 8vo, Boston, 1878.

RICE AND BELL, of St. Paul, Minn. St. Paul Directory for 1869-70, 1 vol. 8vo.

ROGERS, WM. M., of Methuen, Mass. Annual Report of Methuen, Feb. 1, 1870. 8vo pamph. Carleton's Lecture in Methuen, Feb. 9, 1833, 8vo pamph.

SALEM EAST INDIA MARINE SOCIETY. Acts of Incorporation and By-Laws. 12mo pamph., Salem, 1870.

SEYMOUR, C. J., of Binghamton, N. Y. Manual of the Broome County Medical Society, 8vo pamph., 1870.

SILLIMAN, B., of New Haven, Ct. Directory of Grass Valley for 1865, 1 vol. 8vo. New Haven Directory for 1869, 1 vol. 12mo.

STANFORD, D., of Boston Highlands. Thirty Miscellaneous Numbers of Juvenile Newspapers.

STONE, E. M., of Providence, R. I. Annual Report of the School Committee of Providence, June, 1870. 8vo pamph.

TUCKER, JONATHAN. Narrative of the Captivity and Removes of Mrs. Mary Rowlandson, written by herself. 1 vol. 16mo. Lancaster, 1828.

UPHAM, J. BAXTER, of Boston. Typhoid and Typhus Fever, as it occurred in the Boston City Hospital, by J. B. Upham, M. D., from June 1, 1834, to June 1, 1869; 1 vol. 8vo, Boston, 1870.

UPTON, JAMES. Christian Review, 28 vols. 8vo. Lemprier's Universal Biography, 2 vols. 8vo. Hayward's New England Gazetteer 1 vol. 8vo. Sartain's Union Magazine for 1830, 1 vol. 8vo. National Almanacs, 1863-4, 2 vols. 12mo. Boston Almanacs, 1839 to 1868, 27 vols. 18mo. Salem Directory for 1864, 1 vol. 12mo. Manners and Customs of the Jews, 1 vol. 12mo. Putnam's Semi-Monthly Library, 23 vols. 12 mo. The Crescent and the Cross, 2 vols. 12mo. Eleanor, 1 vol. 12mo. Home Influence, 2 vols. 12mo. The Trials of Margaret Lindsay, 1 vol. 12mo. The Mother's Recompense, 1 vol. 12mo. The Foresters, 1 vol. 12mo. Eothen, 1 vol. 12mo.

VERRILL, A. E., of New Haven, Ct. Miscellaneous pamphlets, 15.

WATERS, H. F. Report of the School Committee of Boston for 1869, 1 vol. 8vo.

WATERS, J. LINTON, of Chicago, Ill. Transactions of the Illinois State Agricultural Society, vol. 7, 1867-8. 8vo, Springfield, 1870. (2 copies.)

WHIPPLE, GEORGE M. The Nightingale. 1 vol. 16mo. Portsmouth, 1804. Chants. 2 vol. 12mo. Hymn Book, 1 vol. 8vo, oblong.

WOODWARD, A. Life of Gen. Nathaniel Lyon, by A. Woodward, 1 vol. 12mo. Hartford, 1862. History of Franklin, Conn., by A. Woodward, 1 vol. 8vo, New Haven, 1869.

By Exchange.

ACADÉMIE DES SCIENCES, BELLES-LETTRES ET ARTS. Actes de l'Académie Impériale des Sciences, Belles-Lettres et Arts de Bordeaux. 3e Série. 30, 31 Années 1868-1869, 8vo, Paris, 1868-9. Prix décernés par l'Académie, 8vo, Bordeaux, 1870.

ACADÉMIE ROYALE DES SCIENCES, DES LETTRES ET DES BEAUX-ARTS DE BELGIQUE. Bulletins 2me Sér, Tome 27, 28, 3me Année 1869, 8vo, Bruxelles, 1869. Annuaire de l'Académie. 36me Année, 12mo, Bruxelles, 1870.

ALBANY INSTITUTE. Transactions, vol. vi, Albany, 1870.

ARCHIV FÜR ANTHROPOLOGIE. Zeitschrift für Naturgeschichte und Urgeschichte des Menschen. Vierter. Band. 4to, Braunschweig, 1870.

CONNECTICUT ACADEMY, Transactions of. Vol. ii, Part i, 8vo pamph., New Haven, 1870.

CONNECTICUT HISTORICAL SOCIETY, Collections of. Vol. ii, Hartford, 1870.

IOWA STATE HISTORICAL SOCIETY. Annals of Iowa, for Oct., 1870, 8vo pamph.

MICHIGAN STATE AGRICULTURAL COLLEGE. Catalogue of the Officers and Students, 1876, 8vo pamph.

MINNESOTA HISTORICAL SOCIETY. Collections, vol. iii. Part i, 8vo pamph.

MORAVIAN HISTORICAL SOCIETY. Transactions. Part iv, 8vo pamph.

MUSEUM OF COMPARATIVE ZOOLOGY. Bulletin, vol. ii, No. 1, 8vo pamph, 1870.

NEW ENGLAND HISTORIC-GENEALOGICAL SOCIETY. New England Historical and Genealogical Register, Oct., 1870.

NEW YORK LYCEUM OF NATURAL HISTORY. Proceedings, vol. i, Sigs. 1, 2, 3. Annals, vol. ix, Sigs. 23, 24, 25, 26.

NEW YORK STATE LIBRARY. New York State Documents for 1864, 1865, 1866, 1867, 1868, 1869, 121 vols. 8vo. Laws of New York for 1864, 1865, 1866, 1867, 1868, 1869, 10 vols. 8mo. Regent's Report for 1865, '66, '67, '68, '69, 5 vols. 8vo. N. Y. Civil List, 2 vols. 12mo, 1860-70. N. Y. Manuals from 1841 to '70, 12 vols. 16mo. N. Y. State Register, 1830, '4, '5, '40, '3, '5, 6 vols. 12mo. Royal Calendar, 6 vols. N. Y. Directories, 1857, '60, '67, 3 vols. 8vo. Rochester Directories, 1854, '51, '55, '61, 3 vols. 12mo. Troy Directories, 1857, '58, '59, '60, 4 vols. 12mo. Schenectady Directories 1857, '58, '62, '63. Albany Directories, 1830, '62, '63. Brooklyn Directories, 1856, '67, '68. Milwaukee Directories, 1851, '52, '56, '57, '58. Oswego Directory, 1831, '65. Poughkeepsie Directories, 1856, '57, '59, '60. Hudson Directory 1856, '57. Documents relating to the Colonial History of N. Y., 1 vol. 4to, Albany, 1861. Miscellaneous pamphlets, 640.

PHILADELPHIA ACADEMY OF NATURAL SCIENCES, Proceedings of. May, June, July, and Aug., 1870.

PUBLISHERS. American Journal of Science. American Literary Gazette. American Naturalist. Book Buyer. Boys' Journal. Canadian Journal. Christian World. Cosmos. Eclectic. Essex Banner. Gardener's Monthly. Gloucester Telegraph. Haverhill Gazette. Land and Water. Lawrence American. Literary World. Little Giant. Lynn Reporter. Medical and Surgical Reporter. Nation. Nature. Peabody Press. Quaritch's Catalogue. Sailors' Magazine and Seamen's Friend. Salem Observer. Sotheran's Catalogue. The Weekly Public Spirit. SOCIÉTÉ LINNÉENNE DE BORDEAUX. Acts. Tome xxiv, 5 (1868), 6 (1870). Tome xxvii, 1, 1870, 8vo.

VERMONT HISTORICAL SOCIETY, Collections of. Vol. I, 8vo. Montpelier, 1870.

VERMONT STATE LIBRARY. Twelfth Registration Report of Vermont for 1868, 1 vol. 8vo. Journal of the Proceedings of the Constitutional Convention of Vermont, 1 vol. 8vo, 1870.

The President mentioned that the fiftieth anniversary of the organization of the Essex Historical Society would occur on Friday, the 21st of April next, and suggested the propriety of having some notice taken of this event. After remarks from several members, on motion of Mr. James Kimball it was *voted*: That arrangements be made for an appropriate celebration, under the directions of the Lecture Committee.

Mr. JAMES KIMBALL exhibited a map containing an outline of the Peninsula of Salem situated between the North and South Rivers, with the indentations and coves, as it was in 1626, when Roger Conant and his companions landed and formed the first permanent settlement in the Massachusetts Bay Colony, so far as it could be ascertained by consulting the records, and from other sources. He gave a brief description of the same, tracing the shore line from the northeastern point near the terminus of Beverly Bridge to the square in Peabody, thence around the neck which has undergone few changes, and on the southern side to the mill pond.

The physical character was noted, the land on the North River rising in some places somewhat abruptly from the river, especially on the western end, gradually tending to the south. The south side had also several abrupt hills with openings between, sloping down to the river. These elevations were no doubt covered with wood; the pine on the sand hills on the north, and the harder woods on stronger lands in the centre and on the south. There were depressions of swampy lands (now clearly indicated) extending nearly the whole length; undoubtedly shallow ponds at some early period filled in with vegetable accumulations and by the denudation of the higher lands; the eastern portion about sixteen feet and the western about twenty-two feet above mean high water. This irregularity of surface has been modified, the elevations furnishing materials for the depressions, so that at the present time we find it comparatively level. Many of our streets have been raised since the commencement of the present century, from one to three feet. The soil is light and sandy loam with gravel and sand underlying; in some places, with a substratum of clay. Those places that were originally swampy are clearly defined by the black muck underlying. After alluding to the ledges in the western section of the town, the surface rocks, and the character of the vegetation, he concluded his interesting communication with a brief résumé of the principal changes that have occurred, especially those within the recollection of our older inhabitants.

Mr. Kimball intends to speak on this subject, more fully, though perhaps in a somewhat modified form, at a future meeting of the Institute.

REGULAR MEETING, MONDAY, DECEMBER 19, 1870.

President in the chair. Records of preceding meeting read.

The Secretary announced the following correspondence:—

U. S. Dept. Interior, Oct. 31; New York, Secretary of State, Dec. 8; Buffalo Historical Society, Dec. 12; Emden, Naturforschende Gesellschaft, Oct. 1; Leeds Philosophical and Literary Society, Sept. 5; London Society of Antiquaries, Nov. 23; Lüneburg Naturwissenschaftliche Verein, July 21; Maine Historical Society, Dec.; München Das Bibliothekariat der Königl. Bayer Akad. der Wissenschaften, Sept.; New England Hist. Gen. Society, Dec. 12; Brooks, H. A., Salem, Dec. 8; Hall, F. H., Chicago, Dec. 11; Leavitt, J. H., Salem, Dec. 12; Paine, Nath'l, Worcester, Dec. 2; Perkins, James, Boston, Dec. 13; Poole, W. F., Cincinnati, Ohio, Dec. 14; Prescott, W., Concord, N. H., Nov. 29; Roberts, Adeline, Salem, Nov. 23.

The Librarian reported the following additions to the Library:—

By Donation.

MASSACHUSETTS STATE DEPARTMENT. Massachusetts Public Documents for 1869, 4 vols. 8vo, Boston, 1870. Acts and Resolves of Massachusetts, 1870, 1 vol. 8vo.

U. S. SURGEON GENERAL'S OFFICE. Annual Report of the Surgeon General, U. S. A., 12mo pamph., 1870.

FROM AUTHORS. Address by B. F. Butler, in Music Hall, Boston, Nov. 23, 1870, 8vo pamph. Writings of Wm. G. Goddard, by his son, Francis W. Goddard, 2 vols. 8vo, Providence, 1870. Lecture by C. Sumner, "The Duel between France and Germany," 8vo pamph.

HOLDEN, N. J. Massachusetts Legislative Documents, for 1869, 1870, 11 vols. 8vo.

LAMSON, G. W. Physical Media in Spiritual Manifestations, 1 vol. 12mo, Philadelphia, 1869.

LEE, JOHN C. Commercial Bulletin for Dec., 1870.

PERKINS, JAMES, of Boston, Mass. Centennial Memorial of the Lodge of St. Andrew, 1 vol. small 8to, Boston, 1870.

POTNAM, Mrs. EBEN. Miscellaneous pamphlets, 37.

STONE, ALFRED, of Providence, R. I. Providence Daily Journal from January to June, 1870, inclusive.

WATERS, J. LINTON, of Chicago, Ill. Annual Report of the Board of Education of Chicago, for 1870. Biennial Report of the Treasurer of Illinois, 1 vol. 8vo, Springfield, 1867.

By Exchange.

BALTIMORE, MD., PEABODY INSTITUTE. Proceedings, on the Announcement of the death of Hon. J. P. Kennedy, who died Aug. 18, 1870; 8vo.

BOLOGNA, ACCADEMIA DELLE SCIENZE DELL' ISTITUTO. Rendiconto delle Sessioni An. Accad., 1868-69.

BOSTON SOCIETY OF NATURAL HISTORY. Proceedings, Vol. 13, Sig. 19.

COPENHAGEN, KONGELIGE DANSKE VIDENSKABERNES SELSKAB. Oversigt over det Kongelige Danske Videnskabernes Selskabs Forhandlinger og dets Medlemmers Arbejder i Aaret, No 6, 1868, No. 4, 1869, and No. 1, 1870, 8vo, Kjøbenhavn.

KONGELIGE NORDISKE OLDSKRIFT-SELSKAB. Mémoires de la Société Royale des Antiquaires du Nord, 1866, '67, '68, '69, 8vo, Copenhagen. Tillæg til Aarbøger

for Nordisk Oldkyndighed og Historie, 1866, '67, '68 '69, 8vo. Oldnasdisk Ordlog af Erik Jonsson. 8vo. Kjöbenhavn, 1863.

DRESDEN. NATURWISSENSCHAFTLICHE GESELLSCHAFT. "Istis." Sitzungs-Berichte, April, Mai, Juni. 8vo, Dresden. 1870.

EMDEN, NATURFORSCHENDE GESELLSCHAFT. Jahresbericht, 1868, 8vo.

FRANKFURT. ZOOLOGISCHE GESELLSCHAFT. Der Zoologische Garten. Zeilschrift für Beobachtung Pilege und Zucht der Thiere. Herausgegeben von Dr. F. C. Noll, Jahrg. xi, 6 Nos. 8vo, Frankfurt. A. M., 1870.

LUNEBURG. NATURWISSENSCHAFTLICHER VEREIN. Jahreshefte, 1868-9, 8vo.

MUCHEN. KÖNIGLICH BAIERISCHE AKADEMIE DER WISSENSCHAFTEN. Sitzungsberichte, 1869, 1870.

MOSCOU SOCIÉTÉ IMPERIALE DES NATURALISTES. Bulletin, Année 1869, No. 4, 8vo.

NEW JERSEY HISTORICAL SOCIETY, Proceedings of. Vol. ii, No. 2, Second Series, 1870. 8vo.

QUEBEC LITERARY AND HISTORICAL SOCIETY. Transactions. New Series. Part 7, Session of 1869-70, 8vo, Quebec, 1870.

PUBLISHERS. American Naturalist. Christian World. Essex Banner. Gardeners' Monthly. Gloucester Telegraph. Haverhill Gazette. Historical Magazine. Lawrence American. Little Giant. Lynn Semi-Weekly Reporter. Medical and Surgical Reporter. Nation. Nature. Peabody Press. Quaritch's Catalogue. Salem Observer.

The following donations to the Historical Department were announced :—

DOWNIE, Mrs. E. A. An old Memorial Pitcher—an engraving of the Boston Massacre. March 5. 1770.

FLOWERS, WILLIAM H. Fifty Dollar Bill of Confederate currency.

HOBART, Mrs. SARAH. An old Spinning Wheel for woolen yarn.

TUCKER, JONATHAN. An Umbrella and a Parasol of the fashion of 1804.

George F. Choate of Salem, Mary O. Hodges of Salem, and Mary W. Bemis of Chicopee, were elected members.

Mr. F. W. PUTNAM made a few remarks on two specimens of interest which had recently been added to the Museum of the Peabody Academy of Science. One of them was a fish not before known in Massachusetts waters. This specimen was a species of *Hemiramphus*, a genus of tropical fishes belonging to the flying-fish family. The species represented by the specimen on the table was probably a West Indian fish that had strayed from its natural waters and followed the Gulf Stream until it neared the Massachusetts coast—had entered our North river, and followed it up until it reached the millpond at Danversport. where, in consequence of the water being too fresh, it died and had been washed ashore. The specimen was found on the shore of the millpond and given to SAMUEL P. FOWLER, Esq., of Danvers, who presented it to the Academy. This was the first instance of a species of the genus *Hemiramphus* having been found in Essex County waters, and though a straggler, and hence not a regular County fish, was still a most perfect and interesting addition to the large ichthyological collection of the Academy.

The other specimen of which he spoke was that of a woodchuck, presented to the Peabody Academy by D. W. SMEAD, Esq., who found it in the Adirondack region. This skull showed a singular abnormal growth of the two incisor teeth of the upper jaw. The right incisor had been forced somewhat from its proper line of growth, and was about three times its normal length, while the left incisor had continued to grow in the line of the natural curve of the tooth, and had made a complete circle, passing through the bones of the roof of the mouth, and curving under the nasal bone, had passed through the premaxillary bone, penetrating it at the side of its original position, and had continued to grow in its circle until it had again penetrated the bones of the roof of the mouth and was just passing through the premaxillary a second time, when the animal died, probably from starvation. In explaining how this extraordinary growth had taken place, Mr. Putnam gave an account of the formation, structure and growth of the incisor teeth of the Rodents, and showed how by the constant wearing away of the softer parts of the incisor teeth on the inside surfaces of the teeth of the upper and under jaws, the teeth were kept constantly sharpened, and their edges worn away as fast as the growth took place, and how in case of injury or loss of the two opposing teeth in the under jaw, an abnormal growth would take place as in the case of the specimen in hand.

The President then introduced Mr. WILLIAM MAYNARD, of Montreal, stating that his lecture would be highly interesting to the tanners and curriers of the city, and referring in complimentary terms to the editor of "The Hide and Leather Interest," who had spent some time in Salem last summer, and had published a considerable amount of interesting historical information with regard to the tanneries of Salem, which had been reprinted in the Salem papers.

Mr. MAYNARD then addressed the audience as follows :—

The earliest authentic account that we have of the employment of means for curing, preserving and tanning leather, is found in the history of the Egyptian people. They, it seems, steeped the skins in a bath made of meal and water, for a few days. This softened the fibrine and gluten, as also the albumen of hide, and served also to expel the serum, etc. The hides were then submitted to the influence of a strong decoction, or more probably the expressed juice of the *Periploea sycamora*, generally known as the Devil's Weed, found in great abundance at the present day upon the plains of Arabia, and used by the people of those sections for a similar purpose at the present day, namely, to depilate and prepare the skin for preservation — which may be termed the combination process — as they use flour, oil, native kalium and a decoction made from a species of *Quercus*

Rhus and Acacia, and thus hypothetically we are able to surmise the possible method employed by the Egyptians. That they had reached a state of perfection in the art is proved from the writings of Herodotus, for the process of unhairing was performed by them in from four to five days; and as a further proof of their proficiency we will quote from the 36th chapter of Exodus, verse 19:—

“And he made a covering for the tent, of rams’ skins dyed red, and a covering of badgers’ skins above that.”

The Jews having been in bondage in Egypt for many years, considering the period to which this quotation refers, it is not unreasonable to suppose that the knowledge of tanning and dyeing skins which they then possessed had been acquired from the Egyptians; and so we find a similar system adopted by all the Eastern nations up to the present day—that is, the process called by us of the present day leather-dressing,—and employed particularly for the preparing and finishing of what is called Morocco leather. The very name implies its origin. The Greeks and Romans produced this description of leather in great abundance, as is proved by the writers of that day in describing the foot-gear of the wealthy. Athens excelled in the manufacture of dyed leather—purple and red, especially purple. The Moors and also the Turks were and are at the present day exceedingly skilful in the art of leather dressing.

I have seen an Eastern currier, a Turk, I believe, take a hog skin, and covering a slab of slate or marble with water, he strewed over it a sort of millet seed; then commenced, at first gently, to set the skin firmly upon the seeds; and having accomplished this, he then crushed them, as it were, into the skin; afterwards carefully taking it up, it was left to dry; when dry, the seeds were brushed off, and behold, in addition to the indentations, each partook of some shade of prismatic color. Shagreen leather, in the manufacture of which the Eastern nations excelled, received its peculiar impressions by similar means. Only the seed employed was harder, and thus we have the initial method of pebbling. It is amusing to note the difference between the parent and the progeny, namely, the pebbling machine of the present day.

The probable improvements made by the Romans were doubtless utilitarian, inasmuch as during their northern conquests they would of course come among a people who, from sheer necessity, would have discovered a more serviceable covering for the feet than that in use among the nations of the East, and the Roman, with his knowledge of the arts, would to a certain extent remedy the defects. That the Romans knew much of the art of preserving and dressing leather may be inferred from the fact that Ovid and other writers make frequent mention of the covering for the feet and legs; thus we are told of the sandal of the soldier, attached to the leg by straps of leather.

In Europe, and in the British Isles especially, according to Cæsar, there was a great quantity of cattle; and furthermore we are informed that the natives sold the hides because they did not understand the art of tanning them. Therefore, when we find (a few years after the Roman conquest) the Britons employed in tanning operations along the banks of all the principal streams, we can come to no other conclusion than this — that the Romans taught them (the Britons and also the Irish) the art. In all probability their teachers were the early Christian Missionaries, or those enduring voluntary exile for the sake of religion, and we are supported in this hypothesis by the fact that the mountaineers of Wales, as also the people of Ireland, for many centuries monopolized the knowledge of the art of tanning and currying; also that the peculiar shaped shoe called by the Irish, brogue, and by the Britons clog or clogne, were similar in every respect to the ocrea of the Roman. Brogan leather, which is a sort of russet leather, unwhitened, evidently took its name from the brogue or brogan. The Saxons seem to have had very little knowledge of the art; indeed, we have no record that they knew it at all.

After the Norman conquest various articles are mentioned as being made of leather, among which are the cuirass, a sort of armor, worn by the warrior of that day, and certainly of Norman origin, as its name implies. In fact, the reputed father of William the Conqueror (if we may give any credence to the history of such a remote time) was a tanner. During the crusades there is abundant room for supposing that those who returned brought with them additional knowledge of the art of leather dressing, if not of tanning and currying; certain it is that the art, and, as it was also termed, mystery, of tanning and currying was conserved by the monks, as there were many towns in England that were founded by the monks; the ancient documents showing that they (the monks) were largely engaged in tanning and its auxiliary, currying, and doubtless considered it, as they described it, “ye art and mistirie,” although long after their time it took the manipulator five, and in some instances, seven years before leather was considered tanned, and yet I hear some persons state that we have made little improvement. I hold in my hand a piece of cowhide tanned in six days. This is tanned after the formula of Professor Zippi, who unfortunately died in this country some months back, before he had made himself known.

Zippi's process is somewhat similar to that of Bordier's, the salt being a sub-sulphate of iron peroxidized, prepared from the proto-sulphate of the same metal, by digestion in diluted nitric and sulphuric acid. It is then diluted; hydrated peroxide of iron is used to strengthen it; it must be frequently stirred. Skins are tanned in this way in from three to six days, and hides from eight to twelve days. There are other processes where the skins are prepared in chrome

salt and afterwards in a sesqui-oxide of iron or peroxide. These are finished in bi-chromate of potash and alumina. Sulphate of potash has been recommended. I would prefer to use (if using salts metallic) the nitrate of sodium. The salt found in South America is preferable.

The combination tannages of England originated, I think, in the town of Warrington, and also in the neighborhood of Leeds. In Warrington the combination consisted of mixing potash and sulphuric acid together in the first liquors and finishing in *divi divi*, myrabolams and valonia. Vacuum tan-pits were also in use by some tanners of this place, which were, I think, eventually relinquished. At Joppa, in the vicinity of Leeds, the combination consisted of mixing *terra japonica* and sumac together in conjunction with sulphuric acid; the pelts which were chiefly E. I. kips, were also bated or drenched in a peculiar manner, the excrement of hogs being used as a drench, and before they were exposed to the action of the lime they were softened in an ammoniacal liquor made from nitre, blood, and the exuvia of dogs. There is to-day scarcely a pure oak-bark tannage in the country — all are combinations to a greater or less extent.

We will commence with the

LIMING PROCESS.

Calcium is found in prolific abundance in almost every part of the world: its uses are multifarious and the history of its usefulness is found in the oldest records — in the ruins of Pompeii as well as in the most recent buildings of modern times.

As a caustic alkali it has the property of decomposing every description of animal and vegetable fibre; it is this property that renders it so serviceable to the tanner, inasmuch as it attacks the fibre of the hide, whilst its alkaline character saponifies the fatty and nitrogeneous matter, thereby setting free the ammonia, which in its affinity for sulphur attacks the hair bulbs and performs the depilatory process. It is soluble in water at about six hundred times its weight.

The anatomy of the hide, the general formation of the hide, consists of a network of fusiform cells, divided into distinct parts, called by the physiologists the epidermis or scurf skin, the cuticle or true skin, and the fibrous membrane; its chemical constituents are nitrogeneous, with a modicum of sulphur. The latter is found principally in the hair; it may be described as gelatine, which is N. or nitrogen, fibrine, N. S., or nitrate of sulphur; hence when brought into contact with milk of lime, hydrogen forms an affinity with nitrogen and lime, hence ammonia, N. H. 3; this attacks sulphur and thus the desired result is obtained.

Old limes become Nitrate of Calcium, N. O5, and saponaceous, and as in this state it is very deleterious to the hide, you will therefore

avoid as much as possible the danger of allowing your limes to become too much saturated with nitrogenized matter; use only enough for the time; sulphur will always assist the lime. I would have made several experiments, only that I had not the apparatus. I propose the use of an apparatus for liming, such an one as I have had in private use for some time past.

DRENCHES.

The exuvia of fowls and reptiles yields upon exposure to a humid atmosphere oxybate of ammonia; in water, with considerable agitation, carbonate of ammonia; thus you perceive the intuitive process of agitating the drenches from time to time. The ammonia is taken up by the hide whilst the carbon is combined with the lime, forming carbonate of lime, or chalk, which is very injurious to the hide, and when in excess prevents the necessary reduction. The test for the presence of chalk is to take up in a glass some of the suspected impure drench and drop into it a few drops of acetic acid. Effervescence or foaming will indicate the presence of chalk. In large tanneries a quantity of air may be blown into the drench until the lime is precipitated, when the supernatant liquor of ammonia may be drawn off and used again with a small addition of excrement.

I have found that weak liquors, rich in acid produced by mucilaginous ferment are of great use in reducing the skin and expelling the lime. Baths of sulphurous acid are also as good (if properly managed) as drenches made from exuvia, especially if uric acid in proper proportions be held in intimate solution with the acid.

SWEATING PROCESS.

Sweat-houses are made, as you all know, by building a place almost air-tight, through which water or steam is caused to pass. H. is evolved, affinity for N. is disengaged and ammonia is formed, first from water vapor; 2 vols. H., 1 vol. O. form 2 vols. aqueous vapor, and 3 vols. of A. V. — 1 of N. form ammoniacal gas, and ammonia has a great affinity for sulphur, and the greatest quantity of sulphur is found in the mucous canal of the skin, consequently the roots of the hair are decomposed by the caustic action of ammonia, and thus depilation is secured. This method is not to be recommended for upper leather, as the fatty portion of the hide is not by this means sufficiently decomposed, and to use acids strong enough for the purpose would injure the texture of the skin, it being too thin. I have seen a few days since, in the tannery of Mr. Rawlston of Berthen, a compound process. The lime-house is part a sweat-room; he uses sulphur in the limes; the hides are exposed to the action of the ammoniacal gas as well as the action of lime, and are lined very low. They use no

drenches. A very fair description of leather is the result. This process might (if improved) answer very well for hides intended for buff leather, because time is saved and the hide is rendered thicker for the splitting operation.

In tanning we have noticed the method of reducing the hide or skin employed by the Egyptian, the Arab, as also by the Indian of this country. The antiquity of the mode or method is beyond a question, as we find the process of smoking the hide resorted to by all of them as the final process, and this brings to my mind carbolic acid, since the creosote of smoke has the property of tanning the hide, and the two are so similar that it seems surprising any one should consider the use of carbolic acid in the light of a new discovery. I remember some years since, while experimenting on some sheepskins, my surprise at finding that picric acid had completely tanned some of them, upon which it (a diluted solution) had accidentally fallen. If I had known then as much as I afterwards learned in relation to picric or carbozotic acid, there would have been no occasion for surprise, since the formula for it is with little difference the formula of carbolic acid.

There is no doubt but that carbolic acid, if used in conjunction with a preparation similar to that adopted by the Egyptian, the Arab, and also the Indian of this country, would make an excellent description of soft leather, but it is decidedly injurious if used in combination with tannic acid. Indeed the French calfskins owe their peculiar softness to the method and the material employed, being somewhat similar in their character and effect upon the skin to that produced by the formula I have just mentioned; and here I would make a few remarks upon French tanning. The French tanners in general produce a very poor description of stock; true it is that in the neighborhood of Strasbourg, Nantes, Tours and Bordeaux, as also Paris, a superior article is produced, but until within a few years past the art of producing stock, known in this country as French calf, was confined to only a few men. In fact, so late as 1824, the art was entirely unknown to the French, they having been taught the mystery by some enterprising Irishmen who found their way there about that time. Before I leave the tanning department I would state that in sole leather too great care cannot be taken in properly semi-drying and oiling before rolling. Oil and water, together with a little rosin, should be mixed together and lightly spread over the surface of the hide before it is placed under the roller; this will give a better polish, a higher color, and at the same time tend to obviate the objectionable property of cracking, which I am sorry to see some sole leather possesses.

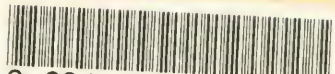
And now we will enter the

CURRYING SHOP.

Here I would earnestly impress upon your minds the necessity there is, first, for careful shaving, or skiving, more especially for calf-skins; let the shoulders and shanks be left *full*; *take nothing off more than you can take off with the back of the knife*; so that there may be something left for the stuffing, without having the thin place disfigured by patches of oily supersaturation; be careful, also, not to dry them in the *sun*! I had forgotten to mention the scouring. Let everything be well scoured in water at about ninety degrees F., if you want weight, color and surface; do not grudge the labor of scouring upon both flesh and grain, and if any difference, let the flesh have the most of it. And now I must say a few words about the stuffing ingredients. I am afraid that I have already taken more than the time allotted for the lecture, and have thus suppressed some portion of it; nevertheless, I would state that we should endeavor to have the hide when converted into leather, as tough, as soft and as fine as it was before we deprived it of its fatty matter in order to render it *leather*. We must learn how to put back all the elements we deprived it of. Oil and tallow will not do this! The softness acquired in leather by saturation with stuffing is similar to the lubrication of the hinges of a door—it softens it and causes rough parts of the fibre to slip; it in fact lubricates it; but when it has evaporated, it leaves the hide as hard and as brittle as it was before it was stuffed at all.

In conclusion, gentlemen, I would say something about extracts and tanning materials, only that I am interested in the manufacture of extracts. Yet if there is any one here who feels interested in the same branch of industry, I shall be very happy to speak with him about it when the lecture is over. We have all the materials for manufacturing every description of leather as good as it can be made in any country in the world! I myself will undertake to tan and curry a skin with materials to be found in this country, equal to any goods produced in France. We have sumac, the quercus of every kind, and last, though not least, the *Abies Canadensis*, the hemlock tree! With the extract of this and sumach, we can produce leather worthy of the country, and I think that is saying a good deal. I do not want to travel this road alone, and I do not think a more appropriate place than this Salem can be found to commence classes for the study of chemistry in its application to tanning and currying. With this I will conclude, thanking you very much for your kind attention.

After the close of the lecture, remarks were made by several members, and a vote of thanks was passed to Mr. Maynard for his interesting and instructive lecture.



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